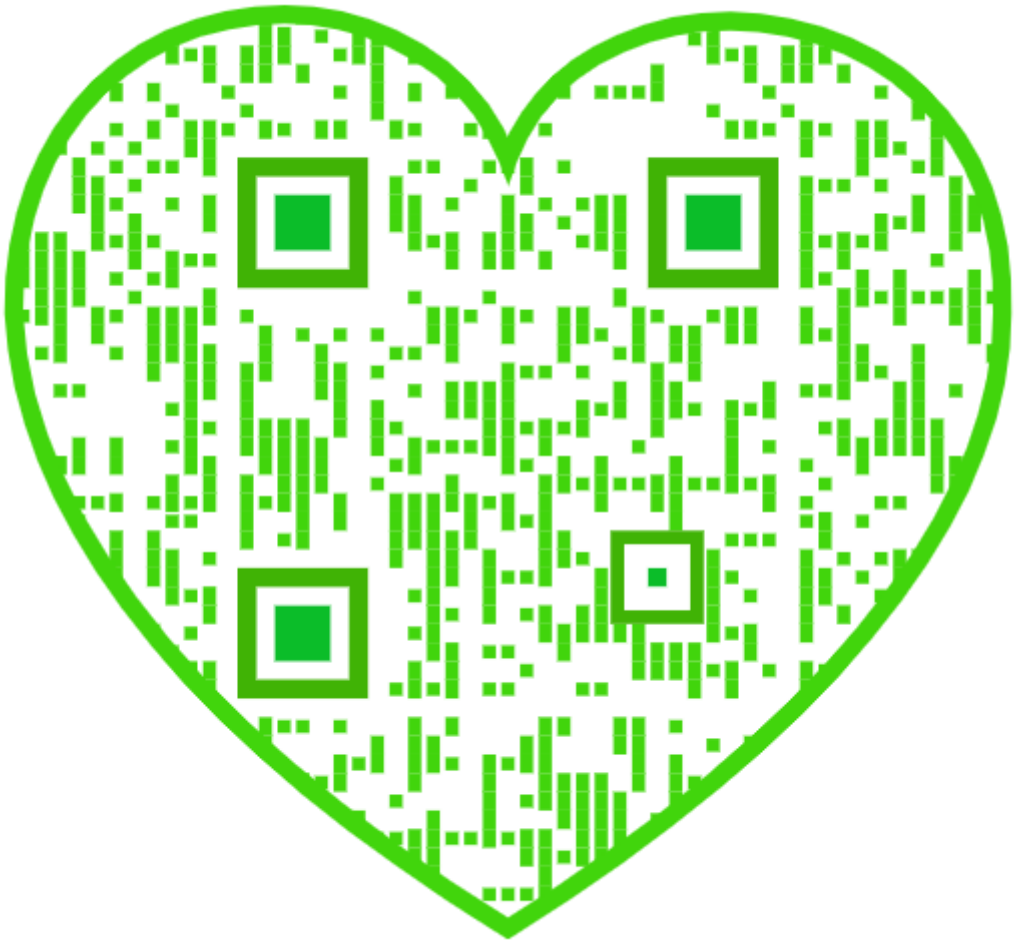
UMASS/AMHERST
312066 0333 3294 7



LIBRARY
OF THE

MASSACHUSETTS
AGRICULTURAL
COLLEGE

SOURCE

F

THE

British Bee Journal,

AND BEE-KEEPERS' ADVISER.

EDITED BY

THOS. WM. COWAN, F.G.S., F.L.S., F.R.M.S., &c., AND W. BROUGHTON CARR.

VOLUME XXVI.

JANUARY–DECEMBER, 1898.

PUBLISHED BY

SIMPKIN, MARSHALL, HAMILTON, KENT, & Co., LIMITED,

23, PATERNOSTER ROW, E.C.

LIBRARY
UNIVERSITY OF
MASSACHUSETTS
AMHERST, MASS.

LONDON :
PRINTED BY LOVE AND WYMAN, LIMITED,
GREAT QUEEN STREET, W.C.

INDEX.

EDITORIALS:—Bees and the "Sex" Question, 21; County Councils and Bee-keeping, 51, 71; Dealing with Foul Brood, 381; Grocery Trades' Exhibition, 341; Honey and its Products, 11; Honey-dew: What is it? 301; Making Headway, 51; New-style Sections, 31; Programmes, 1; Progress in Bee-keeping, 311; Personal, 481; Remarkable Honey Season, 301; Sending Round the Hat, 461, 471, 481; Seasonable, 501; British B.K.A., 11, 131; Live Bees by Post, 81; New Edition of the "Guide Book," 161; Proposed B.K.A. for Devon and Exeter, 22; Samples by Post, 291; Royal Show of 1898, 11; Royal Show at Birmingham, 141; Royal Show 161, 279; Teaching Bee-keeping in Germany, 141; "To Correspondents," 361; The Closing Honey Shows of 1898, 371; Wellington and District B.K.A., 41; Honey Show at Ludlow, 491; Surrey B.K.A., 491; Treatment by the use of Nepthol Beta, 381; *Useful Hints*, 21, 81, 151, 201, 211, 321, 331, 351, 361; The Closing Chapter for 1898, 511

Accuracy Essential to Success, 458
After Swarming, 275
Air-openings Clogging, 443
Antitoxin, 472
Apis Dorsata, 327
Apiary, Laying out an, 430; Starting an, 443; The B.B.K.A. at Swanley, 374
Appliances, Choosing, 17, 26, 60; Ordering, 151; Sale of, 410; Buying, 410; for Sending Abroad, 480
Appliance Dealers' Grievances, 76, 87, 94
Are Bees a Nuisance? 138
Are Rhododendrons and Laurels Poisonous? 195
Artificial Swarms, Introducing Queens to, 259; Swarming by Beginners, 330; making, 189; Drawn-out Comb, 410
Arbitration, Case for, 436, 475, 487
Assisting Cottage Bee-keepers, 109
Association, The Power of, 402
ASSOCIATIONS:—British, 11, 52, 83, 111, 122, 131, 182, 221, 271, 362, 431, 441, 481; Biggar, 342; Bristol, Somerset, and South Gloucester, 61, 222, 323; Cornwall, 131; Carluke and District, 423; Derbyshire, 41, 362; Devon, 22, 41, 342; Essex, 101; Hants and Isle of Wight, 242, 352; Herefordshire, 371; Irish, 37, 73, 118, 161, 212, 371, 439, 461, 511; Kent and Sussex, 32, 213, 332; Knaresboro' and District, 353; Leicestershire, 91, 313; Lincolnshire, 101; Lancashire and Cheshire, 323; Nottinghamshire, 83, 221, 363; Northamptonshire, 91, 322; Northumberland and Durham, 171, 478; North Norfolk, 323; Philadelphia (U.S.A.), 116; Pickering and District, 206; Roxburghshire, 371; Staffordshire, 152, 351; Surrey, 191, 322, 448, 491; Shropshire, 333; South of Scotland, 352; Wellington and District, 41; West of Fife and District, 42; Wilts, 211, 342; Wilts Border Co-operative, 141; Warwickshire, 161; Wellington, Salop, and District, 221; Yorkshire, 91 221

"Bagged" Bees by Bicycle, 242
"Bartering" (a Bee Story), 7
Bee-Appliances Trade in U.S.A., 397; Associations and Keeping Members, 150, 509
Bee-Culture and Foul Brood, 16; Candy, Sugar for, 60; Case, a Scotch, 369; Clubs, Forming, 376; Chat and the "Scottish Bee-Keeper," 311; Flora, 38, 50, 70, 74, 88, 106, 156, 226, 330; Farming as a Pursuit, 160
Bee-Forage, 290; Field Beans as, 226; Undesirable, 287; in South Africa, 327
Bee-Farms near Dwelling Houses, 79; Industry, Protecting the, 246; Jottings, 88; Lectures and Village Clubs, 28, 359; Mystery, a, 263; Proof, 3; Proof and Programmes, 13; Pasturage, 169; Puzzle, a, 203; Poisoning, Suspected, 237; Parasites, 339, 349, 388, 502, 509; Pasturage, Flowers for, 374; Tent, the, 506
Bee-Keeper, a Disappointed, 388
Bee-Keepers' Wants, 66
Bee-Keepers, Winter Reading for, 30, 36; Association for the Hartlepools and District, 73; and Catalogues, 76, 87; and Associations, 127; Assisting Lady, 226; a Word to, 341
Bee-Keeping, British *v.* American, 54; by a Village Clergyman, 460; Careless, 140; Durham, 73; Dangers of, 326; Economic, 115; for Profit, Starting, 448; Humorous Lantern Slides on, 70; in Wiltshire, 61, 411; in Devon, 156; in Surrey, 493; Lantern Slides on, 430; Partner, 199; Starting, 10, 40, 173, 225, 353, 414, 452, 498; Teaching, 169
BEE-KEEPING.—*By H. W. Brice*:
How to Achieve Success, 47, 63, 102, 162, 353
Adaptability for, 48
What Kind of Bees to Keep, 48
Buying Bees, 48
Uniting and Dividing Colonies, 126
Removing Supers, 231
Technical Education, 339
Wintering Bees, 353
Appliances, 354
Bee Diseases, 354
Dealing with Foul Brood, 376
Points in Queen Rearing: Reply to Dr. Miller, 426
Foul Brood and its Treatment, 471
In co. Wexford, 511
BEES: About, 18; Aboard an Atlantic Liner, 208; and Fruit Growers, 203; and Rum, 90; and Snowdrops, 95; and Tits, 137; and Bee-Keeping in India, 171, 194, 327, 347; and Fruit, 204; and Horses 283; and Asparagus, 294; and Cows, 310; and Vibration, 326; and Appleblossom, 408; at the Moors, 117, 324, 373, 383; Before Removal, Confining, 17; by Rail and Post, Sending, 15, 27, 189; Building Combs Outside Hives, 367; Building Combs in the Open, 416; Buying, 436, 475, 487; Cast Out, Immature, 90, 229; Coverings for, 131; Cyprian, 250; Clustering Outside Skep, 318; Deserting Hives, 60, 147; Dying, 177, 185, 196, 239, 248, 290; Driving and Wintering, 457; Eyesight of, 13; From Hollow Trees, Removing, 132, 406; Fighting Among Themselves, 206, 263; for Profit, Working, 207; From Roofs of Buildings, Removing, 299, 309, 325; Foreign, 444; Wanting Food, 209; Buying Diseased, 287, 325; Hornets and, 7; Hanging Out, 259, 290, 310, 259; Horses Stung by, 272, 284; in a Block of Stone, 38, 50; in a Hive Roof, 89; in Yorkshire, 94; in Hollow Trunk of Old Apple Tree, 119; in Northants, 126; in Hollow Trees, 156, 186; in Top Room of House, Keeping, 168; in Relation to Horticulture, 202; in India, 205; in Skeps not Taking to Bar-Frames, 207; in South Wales, 255; in a Ferret Hutch, 266; in Lancashire, 455; Law of Parthenogenesis and, 37; Moving, 110, 488; Moving Eggs, 406; My First Year Among, 492, 496; Near Public Footpaths, 119; Outcast, 226; Overdosed with Naphthalene, 369; Preserving Dead, 290; Prolific Stock of, 386; Planting for, 430; Reviving Chilled, 14; Removing Vicious, 277; Robbed by Wasps, 400; Races of, 279, 460; Stifled in Confinement, 397; Selecting Location for, 452; to Pasturage, Moving, 120, 399, 402; Time for Handling, 308; Thrown Out, 480; Uniting, 264, 329, 369; Varieties of, 279; versus Wasps, 356; Vagaries of, 314; Our Wild, 4, 60, 270, 329, 338, 339, 378, 384; Windy Day Among the, 133; Wintering, 156; Working on Laurel Leaves, 48.
Beeswax for Exhibition, 515
Beginners: Helping, 50, 403; Bee Literature for, 90; Queries, 97, 170, 189, 330, 398; Anxieties, A, 148; First Experience, 173; Troubles, 224, 297; Bee-keeping, 108; First Season's Report, 455
Beginning on Sound Lines, 225
Being in Time, 201
Blight, The, 292
Braula Cœca, 430, 483, 502
Breeding in Spring, Stoppage of, 148; Late, 467
British B.K.A. Annual Meeting, 111
British B.K.A. Conversazione, 111, 122, 182, 431
Brood-Combs in January, Examining, 38; Chambers, Size of, 59; Chilled, 259, 379; Chambers, Removing Honey from, 379; Nests in Spring, Examining, 145
Brood-Nests for Honey Flow, Contracting, 129; of hives, Enlarging, 158
Brood Spreading, 133, 193
Built-out Combs *v.* Foundation, 512
Buying Bees, 58; at Auctions, 136, 138; on Approval, 400
Bee-Candy, 369, 480, 484

Can Bees Talk? 149
Carbolic Acid for Subduing Bees, 90
Cheap Bee-goods, 412
Christmas Cards for Bee-keepers, 500
Cleated Separators, 125, 401
Combed Hives, Using Old, 120

Cones for Removing Bees, 369
County Associations, Joining, 170
Conflicting Theories, 212
Covers for "Tie-over Jars," 310
County Councils and Bee-keeping, 326
Covering for Top Bars, 330
Criticising Editorial Replies, 407
Combs Built to Bottom-bars, 48; from Diseased Hives, Using, 139; Preserving Free from Moths, 389; Gone Mouldy, New, 509; Insects in, 160; only, Working for, 78; Old, 450; Preserving Drawn out, 138; Purchasing Built Out, 389; Renewing, 66, 119, 219; Worked Out, 483
Comb Building in March, 57; Experimental, 395; Honey, How to Obtain, 116; Will Honey Keep? 318; Stand, Cheap, 488
Curious Case, A, 403

Dairy Show Schedule, 349, 401, 420, 422; Interesting Exhibits at, 444, 446
Dark Honey, Selling, 347, 403, 414, 428
Devon as a Bee County, 34
Devon B.K.A., Proposed, 37
Dealers and their Customers, 94, 440, 510
December, a Frosty, 494
Diseased Bees, Buying, 287, 325
Disease, Guarding against, 369
Do Bees Pay? 69
Do Bees Steal Eggs for Queen Rearing? 223
Doubling and Storifying, 37, 515
Drawings of Hives to Scale, 473, 487
Driving Bees, 192, 212, 224, 274, 289, 298, 355, 368; Changing Hives after, 298; Help in, 368
Driven Bees, Carrying, 243; in Bags, Carrying, 233, 274; on Bicycles, Carrying, 192, 212, 224; Deserting Hives, 218; in Autumn, Buying, 289; Adding Frames in Spring to, 68; Decamping, 364, 372; feeding, 440, 478

Earwigs, 454, 466, 472, 486, 494, 513
Echoes from the Hives, 8, 18, 27, 49, 58, 68, 79, 89, 99, 109, 139, 139, 149, 159, 178, 188, 199, 208, 218, 228, 246, 257, 268, 278, 297, 307, 317, 328, 338, 348, 357, 367, 377, 387, 448, 457, 469, 478, 488, 498, 508, 514
Eggs, Bees Moving, 450
Ekes for "W.B.C." Hives, 328
Entomological, 136, 467, 472, 474, 487
Enemy Again, The, 151
"Erratum," 490
Examinations for Experts' Certificates, 53, 219, 411
Excluder Zinc, Using, 66, 110, 369
Experiences of Expert Tour, 205
Experts' Certificates, 38, 53, 219, 229, 319, 336, 359, 400, 409, 411
Experts' Visits, 506
Exhibits, Packing and Returning, 316; Unfair, 474, 487
Exit ye Straw Skep, 243
Extracting Old Honey from Combs, 150; Honey without an Extractor, 319; Unsealed Honey, 328
Extractors, Zinc Cylinders for, 489
Extracted Honey, Main Points in Judging, 330; Clearing Air-bubbles from, 398

Facts Worth Remembering, 160
FEEDING, 339, 440, 460; Bees in Spring, 159, 189; Beet Sugar for, 250; Dry Sugar, 7; Bees, Syrup for, 349; Back Old Honey, 448, 470, 474
Fire at Hive Factory, 331
Foodless Stock, Death of a, 208
Food, Making Syrup for, 2, 103, 145, 250, 328, 349, 410, 460
Foreign Queens not Breeding, 159
,, Bees in the North, 456
,, ,, Do They Improve ours? 444
FOUL BROOD: 16; and "Specialists," 308; and Antitoxin, 455, 464; Compulsory Powers in the U.S.A., 246; Covered by Pollen, 359; Curing, 434, 442; Detecting, 169; Dealing with, 98, 115, 136, 166, 169, 217, 224, 259, 325, 331, 334, 338, 368, 376, 399, 400, 410, 428, 443, 454, 464, 470, 483, 498; John Berry's Method of Dealing with, 334; Dr. Lartet on, 381, 393; How it is Spread, 117, 205; Yorkshire, 456, 474; Lantern Slides on, 490; Lady Experts and, 413; Lady's Fears Regarding, 407; Microscope for Detecting, 389; Remedies, 429; Remedial Measures, 158; Suspected, 229, 250, 349; Treating, 324; Working Man's Experience of, 224; Wasps and, 446
FOUNDATION: Bees Refusing, 67; New *versus* Old, 144; Lubricant for, 147; Embedder for Wiring, 330; a Word for "Bad," 337; for Brood Combs, Super, 389; Worked-out Combs *v.*, 474
FRAMES: Wiring, 150, 264, 284; Uniformity in, 218, 270; Top Bars of, 239; in Hives, Spacing, 256; Choosing, 299; after Extracting, Returning, 348

Galvanised or Tinned, 36
"Gedling" Compensation Fund, 272, 284, 294, 307, 317, 326, 328, 336, 337, 346, 356, 377, 423
Glass Honey-jars, 95
,, Covers for Frames, 130, 169
,, "Quilts," 512
Goods, Slow Delivery of, 480
Gorse Blossom, 494, 513
Granulated Section Honey, 10
Grocers' Exhibition, 341, 355, 361, 368
Grocers' Exhibition, Institution of Honey Classes, 401

Hants as a Bee County, 144
"Hat," The, 461, 471, 475, 481, 482, 486, 496, 501
Heather Season of 1897, 94; Varieties of, 279, 290, 310, 330
Heather Honey, Unfinished Sections of, 410; Procuring, 491
Heretical Doctrine, An, 173, 184
Help Wanted, 389
Hive Making, 189
Hive Making, Wood for, 100, 103, 104; Boiling Wood in Naphthaline, for, 67
Hive-Stands, Legs for, 75; Roofs, Removing Bees from, 259; Greenhill's non-swarming, 356; Non-swarming, 290, 468
Hive, the "W. B. C.," 67, 107, 328, 429, 458, 480; Measurements of the "W. B. C.," 159, 498; How to Make the "W. B. C.," 437, 446; Making, A Season's Work in, 397; Nomenclature, 498
Hives, Ants in, 280; Black Varnish for, 60, 115, 145; Coverings for, 259; Cheap, 475; Choosing, 498; Double *v.* Single-walled, 262, 415, 427, 446, 468; Disinfecting, 410; Honey-clogged, 8; in Winter, Temperature for opening, 30, 40; in the Flat, Buying, 66; in Spring, Moving, 100; Number of Frames in, 8, 14; not Necessarily Nasty, Cheap, 492; Painting, 10; Packing Double-walled, 460; Sale of, 400; Unaccountable Sounds in, 238; Ventilating, 430; Wholesale Prices of, 120; Wax Moth in, 147; Wells, 257
Holiday Among the Bees in co. Durham, 94
HOMES OF THE HONEY BEE, 15, 25, 44, 64, 85, 104, 134, 164, 174, 194, 214, 235, 244, 264, 285, 294, 304, 314, 345, 365, 374, 384, 404, 425, 444, 464, 482
Honey and Cane Sugar, 39; Increase in One Season, 158; Honey-dew, 490
Honey as Food and Medicine, 89; Buying British, 325; Buyers, 330; Buckweed, 347; Beverages, 369; Buckwheat, 436; Candy, 369; Dark, 290, 347, 389; for Showing, 319; Flavour of, 379; from same Hives, Variation in, 467; Feeding back old, 448, 470, 474; Granulation of, 98; How to Prevent Stealing the, 383; Keeping, 339; Labels, 359; Labeling, 450; Late, 454; Making by Machinery, 466; Out of Condition, 97; of '98, 225, 233; Preserving, 78; Products at Dairy Show, 446; Quality of, 199, 259, 320, 349, 410; Reliquifying, 259; Season in Ireland, 363; Shavings for Packing, 36; Selling extracted, 99, 109, 282; Specific Gravity of, 172; Suspected, 189; Smoke and, 257; Source of, 279, 330; Selling granulated, 306; Smooth-grained, 329; Samples by Post, 369; Uses of, 39; Using up old, 159; Utilising fermented, 177; Vinegar, 40, 450
Honey-jars, Coverings for, 80
Honey-crop, Selling the, 262
Honey-dew in France, 318
Honey-dew, 314, 318, 319, 339, 347, 490; As Bee Food, 330; What is? 344; In Sections, 359; Points Regarding, 399
Honey Imports, 14, 66, 102, 150, 183, 246, 287, 333, 362, 406, 451, 491; Total for 1897, 59
Hornets, 12, 26, 36
How Frames Should Hang, 199
How to Re-queen Cheaply, 477

Interesting Study, An, 4
Insect Agency, 202
Insect, Name of, 359
Immature Larvæ Cast Out, 270; Bees Cast Out of Hive, 279; Brood Cast Out, 310

Judging if Bees are Queenless, 68
Judges, &c., at Bee-shows for 1898, 202

Keep Bees! 473

Lady Bee-keepers' Troubles, 107; Report, 255
Lard-buckets for Bee-hives, 263, 273
Lecture at Haslemere, 514
Letters Stolen, 167
Limnanthes Douglasii, 330
Local B.K.A. for Wilts, 242
Loss of the *Mohegan*, 428
LORDSWOOD: *Contributions by:*—
My Native Country, 56
Where the Bee Sucks, 74, 88, 104
Our Ivy, 451
A November Day, 451, 461
LOVEDAY: *Contributions by:*—
Hornets and Wasp Stings, 12
Wide versus Standard Spacing in Supers, 75
Bees near Houses and Roads, 143
Can Bees be kept without causing Annoyance? 143
Cane Sugar for Bee Food, 145
Economy in Bee-keeping, 155
Early Swarms, 185
The Season's Prospects, 254
Decamping Swarms, 261
Bees and Farmers, 264
Bees and Horses, 283, 316
Bees Removing Immature Brood, 284
Queens Taking Wing, 292
Bee Stings, 327
Insect Pests, 383
Sowing White Clover for Bees, 383
Judging at Honey Shows, 504
Unfair Exhibiting, 504

Mead, 389; Recipe for, 170; Making, in Siberia, 266; and Mead Products, 444
Meadows' Birmingham Prize Hive, 276
Meteorological, 68, 98, 140, 189, 237, 246, 266, 278, 286, 306, 318, 329, 337, 349, 357, 367, 377, 396, 404, 419, 429, 439, 447, 456, 469, 478, 489, 499, 508, 515
Mice in Hives, 57
Miller, Dr. C. C., on Interesting Figures, 69
Mites in Flour Candy, 170
Moisture Running from Hives, 130
Moving Bees, Danger of, 37; in Skeps, 129

Naphthol Beta: Solution, 130, 377; Measuring, 454
Newsagents and the B.B.J., 359
Non-swarming Hives, 143, 155, 166
NOTES: Derbyshire, 46, 245; Bee, 243; from West Dorset, 262; from Cheshire, 262; from North Yorks, 324; from East Riding, Yorks, 429; from the West, 435; from South Bucks, 466, 488, 507; from Lincolnshire, 468; in general, 483; various, 304
NOTES BY THE WAY: *By Wm. Woodley:*—
The No-bee-way Section, 22, 303
Grading Sections, 42
Queen Bees by Post, 154
Bees near Roads, 155
Selling Price of Honey for 1898, 282
Swarms Losing Weight in Transit, 282
The Season's Harvest, 334
Feeding Up and Packing for Winter, 383
Re-queening in Autumn, 383
Planting for Bees, 383

Notes by the Way (*continued*):—
Grocers' Exhibition, 423
Winter Passages, 383
Dairy Show Exhibits, 441
Prizes at the Dairy Show, 463
Foul Brood and How to Deal With it, 464
Exhibits at Shows and Railway Companies, 482
Worked-out Combs, 483
Foul Brood, 483
Candy Making, 501
Unfair Exhibits, 501
Novice's Grievances, 374
" First Year's Experience of a, 414
Novelties for 1898, 236, 276, 365
Novices on the Prowl, 513
Nucleus Swarming, 107

OBITUARY :—
Rev. F. T. Scott, 118, 121
The Earl of Winchilsea, 371
C. J. B. Gravenhorst, 391
Miss H. M. and Mr. H. F. Cowan, 411, 421
Wm. Thomson ("A Lanarkshire Bee-Keeper"), 463
Observatory Hives, Bees in, 238
Obstacles to Free Bee-flight, 100
Old Time Bee-house, 504
Open Classes at Shows, 243
OUR WILD BEES: *By F. W. L. Sladen*, 77, 86, 95, 117, 128, 137, 145, 157, 167, 187, 197, 213, 234, 270, 329, 338, 339, 378, 384, 475
Origin of word "Heather," 274

Packing Skeps for Transit, 160
"Patent" Bee-hive, the Latest, 361
Phenyle: Soluble, 369; and Naphthol Beta, 400
Phenol for Use in Bee-food, 209
Philadelphia B.K.A. (U.S.A.), 43
"Phlebotomy," 14; the Practice of, 6
Platelayer's Troubles, A, 286
Pollen-gathering, 58; Gathered in October, 436; Stored in Shallow Frames, 359
Practical Hints by a Scotch Bee-keeper, 412
Preparing Bees for Winter, 469, 479, 489, 499, 509, 515
Propolis, 55; Red, 450

Queries, A Lady Beginner's, 248
Querying "Useful Hints," 247
Queen, Age of, 379
Queen and Drone Traps, Alley's, 209; an Active, 455; Breeders, a Word for Foreign, 403; Balled, 480; Cast Out Dead, 160, 270, 279, 389; Cast Out of "Wells" Hive, 223
Queen-cells, 359; Cells not Hatching, 250; Cut Down, 250; Abortive, 270; and Queenlessness, 448; Do Queens Lay Eggs in, 449
Queens, Drone-breeding, 239, 259; Defective, 310
Queen-excluders, 237, 238
Queens Failing to Mate, 270; from Abroad, Carniolan, 435; Loss of, 257; Missing in Post, 389
Queen-rearing, 209, 257, 286, 417, 426; raisers, Italian, 209; raising, Lamp Nursery for, 490; Supposed Loss of, 27, 180; Taking Wing, 273; Wasps in January, 23; traps and Self-hivers, 43, 56, 209
Queens at their best, 256; Bees Balling, 424, 429, 450; Bees Deposing Old, 307; Beginner's Experience with, 282; by Post, 168; Cyprian, 330; Carniolan, 403; Direct Introduction of, 244; Dealing with Virgin, 250; Breeding, 368; Earliest Date for Raising, 180; Fertilisation of, 475; Introducing, 297, 1330; Judging, 310; Laying, 277; Mating in September, 414; Rearing, 163, 440, 458; Ceasing to Breed, 400; Taking Wing, 269, 292; Unfertile, 238, 440
Queenless Stocks, 82, 169; Bees, Utilising, 180
Queenlessness, 159, 400; in Spring, 159; Suspected, 188
Quilts and Separators, 131; for Hives, 270

"Raynor" Honey Extractor, 219
Reports for 1897: Wiltshire C.C., 61; for 1898, Our, 395
Re-queening, 329, 359, 429
Retrospect, a, 6
Re Rosmarini, 506
Robbing, Checking, 176
Robbery of Honey, &c., 373
"Rosemary," More, 494; Less, 502
Roofs Rainproof, Making, 229
Ross and District Bee-keepers' Mutual Improvement Society, 37
"Royal" Show 1898, 24, 30, 36, 47, 141, 161, 166, 241, 251, 261, 279; of 1899, Prize Fund for, 461, 471, 481
Royal Cells not Destroyed, 403
Rowlands Castle, Hants, 338

"Schenck Theory," 34
Schoolmaster Abroad, The, 469
SEASONABLE QUESTIONS: *Answered by G. M. Doolittle.*
Bees Freezing to Death, 9
Shallow Supers and Killing Bees, 28
Preventing Swarming, 28
Preserving Surplus Queens, 79
Questions, 178
Bees Killing Queens, 216
Queens Beginning to Lay, 216
The Main Thing in Bee-keeping, 267
Preventing After Swarming, 275
How to be a Successful Bee-keeper, 296, 306
Removing Bees from House Roof, 397
Straight Combs Without Foundation, 497
Sections: American Expert Opinion on the New Style, 71, 89, 96, 101, 141, 153; and Carry Contents Below—Do Bees Uncap, 387; Bees Refusing to Enter, 276, 319; Brood in, 298; Drawn Out Combs for, 83; for Showing — Preparing, 349; Metal Dividers for, 144; New Style, 19, 22, 23, 27, 125, 468; No-bee-way, 55, 103, 363; Racks—Bees not Entering, 209, 259; Sladen's V Slit, 236; Swarmed Stock not Working in, 310; Swarms Refusing to Work in, 318; Using Partly Filled, 219; Wood Covers for, 134; Yellow, 66
Second Swarms, Preventing, 180
Sending Round the Hat, 461, 471, 475, 481, 482, 486
Shallow Frames, Measurements for, 78
SHARP, ALLEN, *Contributions by*:—
Apicultural Notes, 2, 54, 86, 191
Two-pound Sections, 12
Packing Honey, 12
Split Sections, 23
No Bee-way Sections, 33
Comb Foundations, 46
Cleanliness, 63
Shall we Preserve Combs? 63
New *v.* Old Foundations and Drawn-out Combs, 83
Successful Wintering, 124
Renewing Combs, 124
Spreading Brood, 124
Effects of Cold Weather, 232
Uniting Bees, 232, 253
A Poor Ending to a Bright Beginning, 452
Built-out Combs *v.* Comb Foundation, 453
SHOWS TO COME: 178, and weekly till page 450
Shows and Showing, 316; Awards at, 420, 430; Exhibiting Honey at, 70; Early, 15; Returning Exhibits from, 496
SHOWS: Althorpe Park, 322; Blackburn, 253, 312; Beddington, 322; Bristol, 323; Biggar, 342; Burslem, 351; Cambridge, 302; Carluke, 423; Dover, 332; Dumfries, 352; Derby, 362; Exeter, 342; Farnham, 447; Goole, 303; Gosforth, 386; Hanley, Staffs., 271; Helsby, Cheshire, 303; Highcliffe, 352; Harrogate, 353; Hereford, 371; Horsham, 394; Lincoln, 281; Leeds, 291; Leicester, 313; Ludlow, 491; Melton Constable, 323; Moorgreen, 363; Neston Park, Wilts, 343; Portsmouth, 242; Shrewsbury, 333; Swindon, 342; Stoke Prior, 353; Wellington, 291
"Simmins's" Conqueror Hive, 134
Sketches by a Roving Bee-keeper, 5
Solar Wax Extractor, the, 155
Soluble Phenyle, 209
Some Peculiarities of 1898, 467
Spring Cleaning, 147
Spraying Trees with Arsenical Liquids, 185, 364
Spring Management, 98, 167
Stimulating, 68, 119, 169; in April, 138
Stings, Bee, 327, 335; Effects of, 294, 313; Hornet and Wasp, 12; Remedies for, 270, 304, 313, 326, 336
Stocks after Moving, Loss of, 148; Buying Weak, 177; Buying Diseased, 247; Dealing with Weak, 180; Destroying Diseased, 410; Dwindling, 238; from Driven Bees, Building Up, 219; for the Moors, Preparing, 373; for Increase, Dividing, 286; Building up, 308; in Spring, Equalising, 168; Joining Weak, 199; Requeening, 359; Selling Surplus, 359; Uniting, 181; Uniting Swarms to, 220
Strong Colonies, 49
Straw-Skep Making, 290; Skeps, Cottagers and, 290
Supers: Wide *v.* Standard Spacing, 26, 75; Flowerpots for, 263
Super-clearers, 330, 379, 467
Supering, 348
Surplus Chambers, Wide Frames for, 49; Brood Foundation for, 49; Bees not Entering, 249; Bees Carrying Food Into, 406; Using, 237, 456
Surplus, Harvesting, 389; Tiering up, 67; Working for, 458
Surplus-room, Giving, 139, 181, 209, 212, 227; With or Without Increase, 117
Swarm Building on Trees, 355; Drowned, 259; Early, 126; "In July not Worth a Fly," 24; Killing Queen of, 198; Queenless, 336
Swarm-preventers, 229, 264, 283, 288
Swarms:—And Casts, 259; By Post and Rail, sending, 146, 199, 244, 294; Claiming, 176, 256; From "Wells" Hives, 282; Dealing with, 17; Decoy Trees for, 38; Decamping, 261; Early, 185; Going Back after Hiving, 237; in September, 389; Law of Ownership in, 196; Law on Vagrant, 213; Losing Weight in Transit, 263, 282, 294; Management of, 227; Not Breeding, 299, 330; Or Stocks for Honey, 59; On Partly-filled Combs, Hiving, 130; Preventing, 163, 180, 209, 279, 283, 286; Preventing Loss of, 450; Price of, 243; Returning, 268, 358; Strengthening, 287; Uniting, 268; Weight of, 237
Swarming Vagaries, 255, 293, 314
Syrup, 490

Tan Smoke Injurious to Bees? Is, 189
Thermometer for Bee Work, 177
Tilting Hives, 198
Tomtit Killed by Bees, 137
Trade Catalogues Received, 90, 100, 110, 179, 289
Transferring Bees, 10, 57, 67, 107, 108, 110, 120, 139, 140, 160, 176, 180, 198, 237, 258, 259, 277, 297, 329, 358, 359, 379, 387, 458, 480, 509; an Awkward Job in, 188; by Beginners, 308; Odd Sized Combs to Standard Frames, 310; Removing Skep from Frame Hives after, 256; Larvæ, 449; in December, 512
Tree-Banding, 364
Two Queens in one Hive, 34, 35, 56

Untoward Experiment, an, 355
Unique Bee-hive, a, 416
Useful Hints, 21, 81, 151, 181, 201, 211, 321, 331, 351, 361

Virgin Queen Cast Out, 279
Vicious Stocks, Re-queening of, 78

Warm Summers of 127 Years, 367
Wasps and Bees in Africa, 136; Nests, 329; Nests, Destroying, 347, 364, 377; Stings, Remedy for, 356; Versus Bees, 356; in Shops, 359; Identifying Queen, 500
Wax, Clarifying, 209; Extractor: the "Solar," 73, 92; the "Peebles," 495; Comb Basket for, 100; Extracting, 114, 127, 137, 155, 180, 387, 443, 1454, 495, 513; From Old Combs, 187; For Competition, 330; Improving

Colour of, 130; Rendering, 93, 156, 164, 453, 486; Melting and Moulding, 453; Samples, 369; Suspected, 450; Moth: in Hives, 147, 209, 450; in Store Combs, 160; unoccupied Combs, Larvæ of, 440; in Combed Sections, 199
Wax and other Moths, 225
Weather Reports: 8, 58, 76, 92, 140, 176, 228, 266, 267, 306, 357, 386, 396, 347, 457, 419, 499
Weak Lots of Bees in Spring, Utilising, 148
"Wells" System, my experience of, 24; Lecture on, 493; Dummy Stopped up, 170
Wells Hives, 500; Outer Cases to, 97; Requeening, 277
Wells' Report for 1897, Mr., 251
Wells at Wooler, Mr., 493
"When Doctors Differ," 484
Wild Bees, Nomenclature of, 209
Winter Packing, Removing, 139, 509; Preparing for, 399, 489, 499; Packing for, 410, 470, 479
Wintering: Returning Frames After, 79; Bees in Empty House, 368; Small Stocks, 410; Preparing Bees for, 469
Word from Hampshire, a, 244
Working Drawings of Bee-hives, 506

ILLUSTRATIONS.

"Rosemary," 5
Bombas Terrestris, 86, 87, 129
"Solar" Wax Extractor, 92
Carrying Bees on Bicycles, 192, 193, 212
Nomada Succincta, 197
Sladen's V-Slit Section, 236
Bee-Bag for Driven Bees, 274
Meadows' Non-Swarming Hive, 276
The "Brice" Swarm Preventer, 288
Greenhill's Non-Swarming Hive, 357
Braula Cœca, or Blind Louse, 388, 503
A German Bee-Garden, 392
The "Bogenstulper," 393
A Unique Bee-hive, 416, 417
Plan of W.B.C. Hive, 437, 438, 439
The "Peebles" Improved Alighting Board, 438
Earwigs, 454
American Method of Removing Surplus, 456
The "Peebles" Wax Extractor, 495
An Old-Time Bee-House, 505

PORTRAITS:—
The Late Rev. F. T. Scott,
The Late C. J. H. Gravenhorst, 391

"HOMES OF THE HONEY BEE."
Apiary of Mr. P. Scattergood, Jun., Stapleford, Notts, 15
"Homes of the Honey Bee" (*continued*): Apiary at St. Beunos College, St. Asaph, N. Wales, 25
,, of Mr. Jas. Parker, Winterley, Cheshire, 45
,, Mr. R. Hamlyn-Harris, Hambrook, near Bristol, 65
,, Mr. R. W. Thubron, Sedgefield, co. Durham, 85
,, Mr. J. Rymer, Lewisham, Yorkshire, 105
,, Dr. Robert King, Spalding, Lincolnshire, 135
,, Mr. H. W. Brice, Farningham, Kent, 165
,, Mr. A. D. Woodley, Caversham, Berkshire, 175
,, Mr. T. B. Blow, Mr. G. H. Taylor Welwyn, Hertfordshire, 195
,, Mr. Robert Peebles, Swanston, near Edinburgh, 215
,, Mr. Arthur A. Cole, Oaksey, Wiltshire, 235
,, Rev. T. J. Evans, Tarvin, near Chester, 245
,, Mr. L. Wren, Somerleyton, Lowestoft, 265
,, Mr. John Valentine, Collooney, co. Sligo, 285
"Homes of the Honey Bee" (*continued*): Apiary of Miss B. Kirk, Great Grimsby, Lincolnshire, 295
,, Mr. Percy Wilkins, Wantage, Berks, 305
,, Mr. D. M. Macdonald, Moriush, Ballindalloch, N.B. 315
,, Mr. John Cotterill, Bowdon, Cheshire, 345
,, Mr. W. E. Nutley, Dalton, Thirsk, Yorkshire, 365
,, Mrs. B. Anderson, Cushnie, Gamrie, Banffshire, N.B., 375
,, Mr. S. Crawford, Lisnacloon, Castlederg, co. Tyrone, 385
,, Mr. Richard Brown (Somersham, Huntingdonshire, 40
,, Mr. John Macbeth, Dornoch, Sutherlandshire, N.B., 425
,, Mrs. Hipwell, Hatfield, Hertfordshire, 445
,, Mr. E. W. Goddard's Out-Apiary, Newbury, Berkshire 465
,, Mr. G. Leeding, Bradford Abbas, Sherborne, Dorsetshire, 485

The British

Bee Journal.

No. 811. Vol. XXVI. N.S. 419.] JANUARY 6, 1898. [*Published Weekly.*

PROGRAMMES.

The somewhat unfamiliar look of this page will remind readers of the opening of a new volume, and that to-day's issue of the B.B.J. has a heading which only appears once in each year. Although a trifling matter, it is characteristic of the "get in all you can" spirit of the day to note how assiduously space is saved wherever possible; but in this way the room formerly taken up by weekly repetition of the deep page-heading of earlier volumes, is now occupied with reading matter which, measured up for the year, would fill many pages. As already said, this is a small matter, but we are also endeavouring to keep pace with the times in more important ones. We are not unmindful of the need for making progress in other directions, as shown by the number of high-class engravings with which Volume XXV. is illustrated.

One or two readers, however—who are unreservedly credited with only the most friendly motives—have recently expressed the opinion that it would be a capital idea—so far as assisting our circulation—to "start our new volume with a good big programme for the year 1898." But, as we would remind our friends, programmes are not always good; more especially if they are "big" ones. Moreover, there is something specially unsuitable in the particular item of a suggested programme which takes the form of "prize-giving." Journals purely technical (and the BRITISH BEE JOURNAL is one of these) don't offer prizes in this country, as do popular papers with a large circulation.

When we are reminded of the numerous "premiums" offered by American Bee Journals, it only needs to explain that there is little or no analogy between the two cases. In America things are done in a bigger and more go-ahead style than would be either possible or palatable here. Not only so, but, to instance our enterprising friends, the A. I. Root Company, of Medina, Ohio; this firm are the proprietors of *Gleanings in Bee Culture*—a bi-monthly well known to our readers, from the frequency with which we quote its excellent articles on bees. But *Gleanings*—notwithstanding its very large circulation—is a very small part indeed of the immense business done by the firm in (as the phrase goes) "everything from a needle to an anchor." *Gleanings*, then, serves the A. I. Root Company best in bringing to notice the wares they supply to their many thousands of customers, and whether their bee-paper pays for itself or not is a matter of comparatively small concern. The same may be said of other bee journals across the Atlantic. Their proprietors work in other and larger businesses along with them, and this is well known to all concerned.

On the other hand, what is the position occupied by the BRITISH BEE JOURNAL? For the first ten years of its existence the B.B.J. was ably conducted by the late Chas. N. Abbott, whom all old readers are proud to remember as the *Fons et origo* of the craf tin his day. When, at the end of 1882, the paper then passed into the hands of the Rev. Herbert R. Peel, it ceased to have any connection with the bee-appliance trade. The idea of Mr. Peel was to establish it as a perfectly independent journal, self-supporting, and free from trade interests of any kind. This policy has been continued ever since, and it serves to show the difference in the respective positions of the B.B.J. and its American contemporaries in the matter of "premiums."

For the rest, and regarding our programme for 1898, it is a modest one.

The bee-garden picture will be continued fortnightly as hitherto, and we hope to deal with some of the more important and essential items of bee management—on which so much of success depends—in special articles from time to time. This is a matter in which readers seem to take more interest than any other, and it will be attended to.

The letter of our correspondent "H. S.," on page 3, notwithstanding its somewhat obscure heading, "Bee Proof," will be read with interest. It is, unfortunately, so much easier to make suggestions requiring infinite trouble in giving them practical shape that we must leave its consideration to readers. The last paragraph, however, demands a word, and we must be pardoned for saying that fuller knowledge on the subject would convince "H. S." that British bee-keepers have little to learn from our friends abroad so far as bee-management, and less to reproach ourselves with in "inventing little and discovering nothing for ourselves." For confirmation of this assertion we can confidently appeal to American and German bee-keepers themselves.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17, King William-street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17, King William-street, Strand, London, W.C."*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

APICULTURAL NOTES.

SUGAR *versus* HONEY AS A WINTER FOOD.

[3122.] We are having a remarkably mild winter, in spite of a lot of fog in November and rough winds in the early part of December. Rain having been scarce there is by no means a superabundance of water. I have a pond on my place generally full at this time of the year, but at present it is nearly empty. Of frost we had practically none until December 21, when it came in real earnest, and skating was soon the order of the day. It only lasted, however, to the 26th, since when mild weather has again prevailed. My bees have had frequent flights, and for a few stocks being wintered on sugar there will, no doubt, soon be cause for anxiety regarding stores. It is quite marvellous to see how rapidly the contents of combs filled with sugar syrup disappear on a mild winter. I have never carefully tested the matter, but have a strong belief that one comb of first-class honey will last as long as two of syrup. Years ago we bee-keepers used to turn all the honey into money we possibly could, and any deficiency in winter stores was made up with sugar-syrup. This was thought to be a good stroke of business; but I for one have lived to learn that honey is not only the best, but—all things counted—by far the cheapest bee food.

I venture to say very few bee-keepers have done more feeding than myself, and it is quite within the mark to declare that tons of sugar have been boiled into syrup for my bees. I have also tried all kinds of feeders (including many of my own devising), and all methods of feeding, rapid, slow, and stimulative, with the result of forcing me to the conclusion that the best course, with regard to feeding, is to avoid it altogether, by leaving the bees sufficient natural stores to last until honey comes again. Of course, this cannot always be done. A bad season makes it absolutely necessary to assist the bees, but when such is the case I am convinced that the best thing to do is to give sufficient food in the early autumn, so that neither candy in winter nor syrup in spring is required. Again and again has it been made plain to me beyond dispute that stocks requiring no spring feeding are ready for work in supers before those that are fed in the most careful and judicious manner.

Under certain conditions I admit good candy is a very useful bee food, but whether the advantage derived from the now general use of candy is greater than the injury resulting therefrom is to my mind an open question. Hundreds of stocks have no doubt been saved from starvation by candy, but, on the other hand, how many stocks have been injured, and in some cases ruined by its improper use? Before candy became generally known as a bee food, bee-keepers understood what they had to do, viz., prepare their stocks for winter in early autumn. Now, however, the bees are often neglected with the idea that if they run short of food, candy will supply the want. They overlook the fact that bees cannot live on candy alone, any more than man can live on bread alone, and many a stock has perished with a plentiful supply of candy at hand, but which has of itself been insufficient to sustain life.

There are other conditions under which candy-feeding is, in my opinion, more detrimental than otherwise. On the 20th of November last, I met an enthusiastic young

man who was quite delighted to relate some particulars of a case that had come to his notice the previous day. "A stock of bees," he said, "had already consumed a 3 lb. lump of candy, and had got large patches of brood on three combs." Just fancy the poor bees having their home pulled to pieces on the 19th of November when they ought to have been perfectly quiet, and for no other reason than to ascertain what had become of the 3 lb. of candy! I wonder how much bee-life and honey was sacrificed in converting that lump of candy into brood in the month of November, and what would have been the condition of that stock if severe weather had suddenly set in causing the bees to contract and leave part of the brood unprotected? I, in common with hundreds of other bee-keepers have had splendid results from candy-feeding when carried out under proper conditions, and I should be sorry to condemn it. But what should be most strongly deprecated is the rapidly growing practice of regarding candy as a proper winter food for bees instead of treating it as a substitute intended only to tide over the bees until something better can be had.—A. S., *Brampton, Huntingdon, January* 3, 1898.

BEE PROOF.

[3123.] Another year has now gone and one is led to ask in what way we have advanced the science of bee-keeping within the last twelve months. It sometimes disappoints me to think what little progress we make; there are hundreds of points that need to be decided, but they remain undecided because we fail to understand what it is that constitutes "bee proof." We try an experiment once or twice; the bees do better or worse, as they needs must, and we calmly assume that it is the result of our experiment, and say we have proved that this or that is a good or bad thing. We laugh at the superstitions of primitive bee-keepers, but we ourselves fall into much the same causes of error. One of the causes of *their* errors was to assume that bees had the feelings of human beings; they must, for instance, be told of the death of any member of the household, or their feelings would be hurt and they would die. But we bee-keepers of to-day, in our treatment of bees, still argue that they are like human beings. How often do I read in the B.B.J. that "bees *think* so and so," and their whole reasoning is described to us; or "bees *like* this or that." It may be that bees have the powers of willing and thinking, but I think we should make more progress with bee-keeping if we looked rather for chemical or physical causes of success or failure in bees, just as we do in dealing with trees or plants. And, secondly, we still argue from single instances. "Ginger is a wonderful fine thing for bees," says Hodge to me. "How do you know?" I ask. "Why, I gi'e a bit to one o' my hives, and sure enough it wor the heaviest I had next 'ear." Without being personal, I may say the same argument has been used in B.B.J. by one of your correspondents within the last month.

"One swallow does not make spring;" and in dealing with bees it is particularly necessary to have a large number of facts and figures before you come to a conclusion. In some departments—for instance, in chemistry—you have your material so much under control, you can so easily isolate the cause of which you wish to study the effect, that one experiment is sometimes enough to prove a law. In other sciences, however, we need a considerable number of experiments; for instance, in botany, where, to test the value of an artificial manure, we must have fifty experiments, so difficult is it to make sure that the instances we are comparing are in all points exactly alike except for the artificial manure which we add or withhold. And with bees we need even more experiments to justify us in concluding a general law, partly because bees cannot be examined with ease—at least, not as easily and continuously as ants, for instance—and partly because there seem to be so many causes which influence more or less the produce of a hive. Suppose we wish to test the value of naphthaline—to take an imaginary case—and keep one hive with it and one hive without it; how are we to make sure that in all other points the hives are exactly equal? The queens may be of the same age, the bees of the same strain, the hives the same size; but are we sure the colonies were of the same strength to begin with? Were the stores in the hive of the same amount and the same quality of honey? Were the combs of the same age and shape, with the same amount of drone-comb in each? Was the wood of the hives equally seasoned in each case? Was there not more draught at the entrance of one hive than another, or more damp? Are the coverings of the same amount and texture, and put on in just the same way?—and last and chief, How shall we know whether the queens are of just the same disposition, even though they are known to be sisters? There are, perhaps, 100 causes which influence the welfare of the hive. We add one; but meanwhile 20 or 30 of them may be present or absent without our knowledge; and if the hive to which we have added the naphthaline does better or worse, it may be owing to some other cause than that which we are studying. If ten hives with naphthaline, all of them did better than ten hives without it, the argument of course, would be very strong. But if, as is more often the case, about six out of the first ten have naphthaline, we should not be justified in saying that naphthaline was the source of this. It might be that the six chanced to have better queens. But if six hundred out of the first thousand had naphthaline we should then be justified in our conclusion. For when we begin to

increase our instances a mathematical law come in—that law which brings it about that, though a penny tossed only ten times may come eight times head and twice tails, yet, if you toss it 10,000 times you will find that the penny has come down heads as often as tails within half a dozen or so.

If then we need so many instances before we get "bee proof," this suggests a programme for the B.B.J. Those who keep 100 or 200 hives are those who keep bees to make money and cannot afford to set aside 100 or two of hives to test an experiment. But if 100 of your readers would combine and each set aside two hives to test some experiment which you would lay down, we might really get some data which could be scientific. There may be in bee literature bodies of facts; such I should like to see. Careful experiments on a large scale may have been made. But it seems to me most bee proof

"Partakes of the nature more or less
Of a thing like a sort of a kind of guess."

The plan would be like this. You would ask your readers to volunteer to set aside two hives, as like one another as possible in build, position, age of queen, &c. Then if, for instance, the value of naphthaline was to be tested, one of the hives was to be kept with it and one without it. If the hives swarm, you will have laid down before hand how the swarm was to be treated, so that in all cases there might be the same treatment; and at the end of the season details of the take of honey from the two hives would be sent to you, and you would construct some tables; and the question would be really proved.

For my own part, I surmise that many of the matters in connection with bee-keeping which we consider almost axioms have not been proved, and may be incorrect. It is so easy to give a thing a trial and then say it is proved. Till the Wiltshire County Council tested what ought to be the size of seed potatoes, nobody knew, though every gardener said he had *proved* by experience that the size that he himself used was the best. Again, every one knew it was an axiom of gardening that fruit trees should, if possible, be planted in the autumn; and hundreds of nurserymen would say they had proved it. But when the matter was examined really accurately at the Duke of Bedford's fruit gardens, to the surprise of all, it was found that, at all events in that locality, spring-planted trees did best. It made the gardeners and nurserymen look rather foolish; perhaps we bee-keepers might find we were mistaken in just as fundamental a matter.

The B.B.J. has a unique position; its circulation is wide; it is without rival, and could organise some such movement as I have suggested. Might it not in this way redeem English bee-keepers from the reproach of looking to Germans and Americans for the advance of bee-keeping, and inventing little and discovering nothing for themselves.—H. S., *Winchfield, December* 11, 1897.

WILD BEES.

AN INTERESTING STUDY.

[3124.] I am much interested in the life, history, and habits of the wild bees that are more or less closely allied to the honey-bee, such as the *Bombi*, &c., and it is not easy to get accurate observations without being able to distinguish the various species.

A great number of wild bees burrow out their cells in the soft pith in the centre of dead bramble stems. I am making a collection of pierced sticks, in the hope of breeding some rarities from them next summer. The other day I picked up some snail shells on the cliffs at Ringsdown, containing the cocoons of *Osmia aurulenta*. On opening the cells I was surprised to find next year's bees already matured, although they are not due to hatch out until the end of next May. I enclose a specimen of the female that I took from one of the shells. This species is one of the prettiest of our native bees.

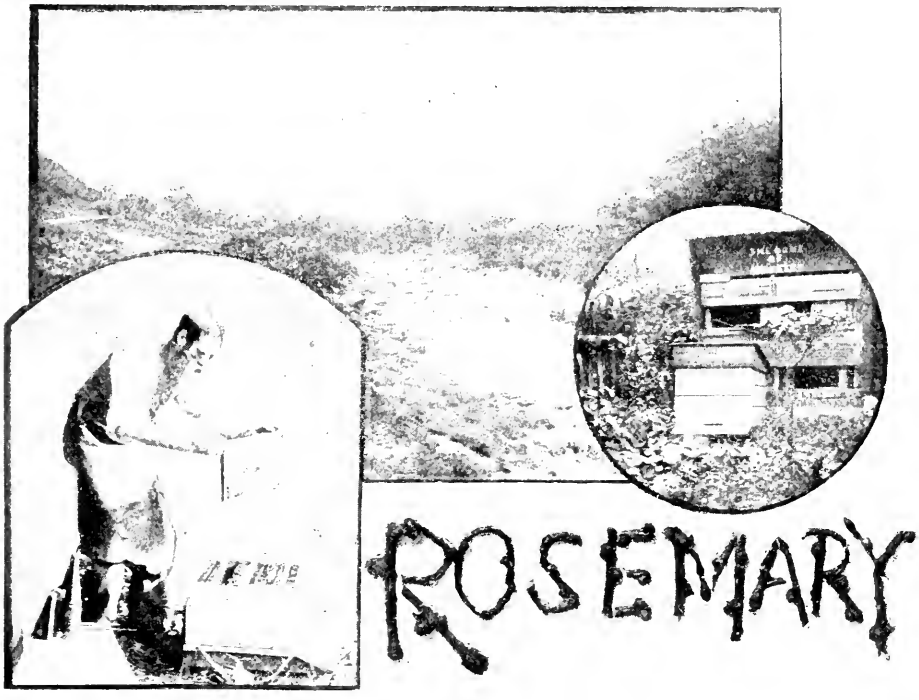
I am glad that the fund it is hoped to raise *re Apis dorsata* has not for its object another attempt at introducing this bee into England, because I am almost certain such an undertaking would result in failure. This time last year, before going out to India, I was very keen on the scheme, and took special hives with me to bring *A. dorsata* back home in; but directly I saw the bee on the wing, and went into its habits (see *Gleanings*, 1897, pp. 486-7) I realised at once how absurd my cherished project was. My own idea now is that *A. dorsata* will never be of any commercial value, except for wax production in India, or in some other country with a tropical climate. I believe that it might be worth while trying the Himalaya bees (*A. Mellifica ?*) in this country. They possess several good points which our bees do not, and it is possible that they might cross with them. The whole question is one of extreme interest, and I am delighted to see it taken up in the present practical way. I regret that I did not stay longer in India to glean more information. One can do so little in a month, especially when the ground is all new.

It is only the *merely* "scientific" entomologist, cut and dried, so to speak, who takes no interest in field-work beyond the beautifying of his cabinet, and therefore misses half the interest and value of his subject, that I do not hold with. Fortunately there are not many such so-called entomologists, but the depreciators of the science are ever ready to bring forward and exaggerate this weak point in some of its followers, so that people may often get to have a wrong impression about entomology. I think I could point to traces of this feeling in some recent correspondence in the BEE JOURNAL. It seems a pity that all bee-keepers should not appreciate the value of a kindred science so closely related to their own, and yet it is a fact that scarcely any bee-

(*Continued on page* 6).

SKETCHES BY A ROVING BEE-KEEPER.—No. IV.

(A SEQUEL.)



BY ALFRED WATKINS.

When, in 1889, we described the "Home of Industry," we did not think that years—instead of weeks—would elapse before we again see the familiar cottage.

Once more we visit the mountain district where the little town of Rhayader keeps watch at the gate of the Wye. In nine years' interval events have marched on. The raven which John Williams—with infinite trouble—took as a nestling from the rocks of Cwm Elan is but a memory. For some years he was the humourist of our back yard, the terror of the tramps, the boon companion of the watch-dog. But his interest in gardening became too excessive; not a bulb or seedling was planted but the strong beak brought it up in search of hidden treasure. So poor Grip's talents were restricted within the limits of a fowl-house. One glorious holiday, however, came to him a month before he left us disconsolate. The morning was spent in the company of the new dog, who, in sheer amazement at being evicted from his kennel, stood barking at the intruder quietly sitting in the doorway picking over the bones which he had unearthed from Rover's private hiding-place; the afternoon went all too quickly in the greenhouse, there was the water-can to upset, the pot-labels to pull out, the trowel to steal and hide away—but we are wandering away and have greater changes to chronicle.

The grassy hills and the lovely Elan Valley where John guided us under the raven's nesting place is now bought up by the Birmingham Corporation. The "finest water-shed in the island" is secured to the midland town, while London—the great city with the stifled mind—allows her opportunities to slip away. The heather-clad hill-side where we planted our hives looks down upon a village of navvies' huts. A bran new hotel stands at the entrance to the valley. A spot where we photographed a wild and lonely mountain stream is now one huge chasm, with cofferdams, pumps, engines, and quarries, in preparation for the great dam which is to hold up the coming lake. Great scars disfigure the mountain side. The sound of blasting has driven the ravens to more lonely haunts. Shrieking engines, with long trails of small trucks, run up either side of the stream.

The town of Rhayader shares in this flood of activity; brakes and waggonettes pull up at the hotel. There is a change in the main street, an air of briskness, of greater prosperity, new shop windows and altered fronts. But to us there is a sense of something wanting. At one cottage the little porch wears a

familiar look, but a strange face peers from the window. There is no longer a pleasant greeting as the tall figure stoops under the low doorway.

Consumption has claimed its victim, the "Home of Industry" is broken up; a cheery, gentle spirit is at rest

Brave soldier in the battle of life, poor were your quarters, scanty your rations and pay, but your memory is fragrant yet. We can at least lay this tribute on your grave—"Rosemary, for remembrance."—*December*, 1897.

(*Correspondence continued from page* 4.)

keeping friends of mine take much interest in the wild bees; and, on the other hand, I may say that not one of my entomological friends, so far as I know, is a bee-keeper.

If there is to be any movement set on foot towards introducing Himalayan honey-bees into this country, I should strongly advise sending them over in March or April. At a later season of the year the passage through the Red Sea would be so hot as to cause great loss of bee-life. Even in February, supposed to be the coolest month in the Red Sea, some numbers of my bees died, despite all the ventilation I could give; while the mortality in the Indian Ocean, and afterwards in the Mediterranean, was comparatively slight.—F. W. L. Sladen, *Ripple Court, Ringwould, Dover, December* 23, 1897.

THE PRACTICE OF PHLEBOTOMY.

[3125.] As Beekeepers' Associations are now considering who are eligible for the presidential chair in the new year, it is well to remind committees that the choice should fall on some gentleman or lady who is likely to take an *active* part in the work of the societies they are to preside over. A little *warm* "interest" is better than a contribution to cold capital. I much fear that committees merely pick out a president for the prospective pleasure of "phlebotomy." Such practice is, I think, lowering "to practitioner as well as patient."

I am pleased to send you the following extract from a letter I have received from our old friend, Mr. Hooker, who is on a visit to his son in America:—

"I gather from the B.J. that the honey department of Dairy Show was a great success. I should have liked to have been there.

"I have seen a good few bee-keepers since I have been out here, and attended two of the meetings of the Philadelphia Bee-keepers' Association. I went out to Juckinton, a few miles from here, to the apiary of Mr. W. Selser, a queen breeder, but the weather was most unpropitious. From what I have seen and the conversation I have had with bee-keepers, who have all been most pleasant and communicative, I think we have little to learn from our American friends as to management, &c. They have, however, a much longer honey season than us. The bees were collecting honey and pollen in the middle of November in some districts here. Two or three of those at the meeting said their bees had gathered a quantity of honey in October and November. Foul brood is at present unknown in this part; only one of those present had seen it in one of the other States. I described it to them, and gave my experience of it when at Sevenoaks.

"I am very happy out here with my children and grandchildren; they are all most kind, and want me to stay altogether, but I cling to the old country. I hope all our bee-friends are well and have had a good honey harvest."—E. D. T., *Eynsford, January* 3.

A RETROSPECT!

[3126.] As "Bristol Notes" seem to be rare in our Journal, I trespass on your space to say that in this "western metropolis" we count ourselves amongst the "brotherhood," and are doing what we can to extend the study of bee-keeping amongst our cottagers with the view of swelling their none too large incomes. The past year was remarkable here as elsewhere so far as it affected bee-keeping. Our spring was cold and late; the fruit blossoms were torn away by the boisterous winds; consequently, little, if any, surplus honey was gathered from this source. The bees tried their hardest to battle with the winds, but in vain, and hundreds left the hives never to return. This was made quite clear to me while watching them day by day while the inclement weather continued. Only by continual feeding with warm syrup, and slipping hot-water bottles between quilts to keep the queens laying, was the heavy mortality to be coped with.

However, brighter days were in store, and when warm weather did come our busy workers chanted merrily while speeding from flower to flower, which gladdened our hearts and repaid us for any extra care bestowed on them. Later on, swarming was the order of the day in many apiaries about here, though I was only troubled with two swarms, one coming off on June 22, so that my "Diamond Jubilee Day" was spent in view of the "Cotswolds," amid the hum of my bees. Talking of the Cotswolds (*our* Cotswolds) and Jubilee Day reminds one of that wish expressed by "Wold Bee," on page 192, of vol. 15. You should have *two* W. P. Baskets, if I could say, come along "Lordswood," *we* will go to the Cotswolds and keep our bees among their shady nooks, ar away from bricks and mortar!

But I wander from my retrospect. We had reached Jubilee Day. It was ideal bee weather here. Honey was simply pouring in, especially—as it seemed—into my "Wells" hive.

Regarding this double-queen system, I may say the yield from my "Wells" hives has

been far greater than from any two of my singles. My "Wells" produced about 175 lb. each, and my highest single about 75 lb., which shows a good balance in favour of the double-queened stocks. I have certainly heard of several cases of bees in "Wells" hives having all passed over to one side at the end of the season, and one queen lost; I am, however, glad to say this has only happened with me once, and that occurred in the first year I adopted the system. My own idea is that communication through the excluder zinc is not cut off soon enough after the honey-flow is over. I have been careful, since my first failure, to stop both stocks working together, directly after the honey-flow, thus making the colony into two stocks again; and since doing this I have had no joining up. This hint my be of use to those who have had this particular trouble to complain of, as none will care to lose a valuable queen late in the season.

Queen rearing has been fairly successful with me in '97, seeing that only in one case have I a loss to chronicle owing to a rough wind springing up at mid-day. My autumn examination revealed several cases of bees short of stores, necessitating rapid feeding up, and proving the need for a close watch at that season.

I have, during the year, saved a good many skeps of bees from the "sulphur pit." In one village I could have driven over thirty lots, had time allowed. Indeed, I have always found cottagers ready and willing to save the bees, as they don't like the "sulphur pit." "It's only a question of expense in starting," said a cottager to me, "which keeps me from the bar-frame system." Early in October all my bees got the usual supply of soft candy, were snugly packed and protected from King Frost. The frost, however, paid its first visit a few days ago, when we found our last flowers of autumn mercilessly cut down.

As showing the mildness of the past autumn season, I may say that the crocus here is almost showing its blossom, and a queen wasp was caught in the vicinity of my apiary on December 13. To-day, as I write, the frost has gone (the temperature in the sun being 60 deg.); bees are again on the wing and visiting the water-trough, thus plainly showing their eagerness for work in the coming year, which I sincerely hope will be another record one for all in the craft.—G. H. T., *Bristol.*

HORNETS AND BEES.

[3127.] I had intended saying a word in reply to Mr. Loveday *re* hornets, on p. 494 of B.J. for December 16, but on seeing Mr. Reid's letter on p. 503 of following issue, wherein he gives them so good a character, I venture to send my experience of hornets with respect to their treatment of the hive bee. I should have been glad to endorse Mr. Reid's experience and good opinion of these insects, but am unable to do so. The last place I lived at was Embley Park, Romsey, and there were a good many hornets' nests in the thatched roofs of cottages and sheds about. In fact, they seemed to prefer such places to hollow trees. But the way in which these particular hornets used to serve the poor bees at certain seasons often quite upset me. It was a common thing to see five or six of them flying lazily in front of the hives ready to pounce on the heavily-laden and tired bees, and carry them off to a bough of the nearest tree, then deliberately mutilate the body of the victim before flying off home with the toothsome joints wanted for food. When I could stand the sight no longer, I did all that was possible to lessen the mischief, so far as my time allowed, and killed off all I could. Since coming to this part of Surrey, I have never seen a hornet, and don't want to. I hope to send a few lines on moving bees and some other matters in a short time. Wishing yourselves and all B.J. readers a prosperous New Year.—J. C., *Godalming, Surrey, December* 29.

BARTERING.

AN AMERICAN BEE-STORY.

[3128.] A friend of mine, who has spent some years in the Western States of America, told me the following story which I think will interest readers of the BEE JOURNAL. He was living in a State where they seldom saw money, but bartered their produce as best they could:—A young bee-keeper decided to get married, and in the preparation of his future home had disposed of his honey and everything else marketable except a cake of wax. So one fine morning he started along with his intended bride for the residence of the nearest magistrate (who performs the marriage ceremony in those parts) a distance of twelve miles. On arriving he produced the cake of wax and explained his position to the magistrate who at once weighed it and found it to be insufficient to pay his fees. The disappointed bee-keeper moved for the door, but to go back twelve weary miles just as they had come was too much for the fair lady American, so addressing the magistrate she said: "If you please, sir, couldn't you marry us as far as the wax will go?"—C. Y., *Dunham Valley, January* 3.

Queries and Replies.

[1888] *Dry Sugar Feeding.*—Will you kindly answer the following:—1. Will dry sugar do for spring stimulative feeding? 2. When should spring feeding commence if weather be fine? I found that in the late autumn of 1897 bees took dry sugar freely when they refused syrup. Perhaps some one

who has tried dry sugar feeding will give us their experience in a future number of the B.B.J. It would, I think, be interesting to many readers.—R. C. V., *Puckington, December* 30.

REPLY.—1. If genuine Porto Rico sugar be used it will answer for spring use, but, in our opinion, well made soft candy is incomparably better for the purpose. 2. When bees are carrying in natural pollen freely is the most suitable time to start stimulating. The refusal of bees to take syrup in late autumn is so well known to experienced bee-keepers that they never offer it at that season.

[1889.] *Honey-clogged Hives.*—I have been a bee-keeper four or five years, and in one sense have been too good to the bees. However, I now know a little better how to manage. I have three hives in which the combs have altogether too much food in them, and hope by proper management not to permit this in the future. I would, therefore, be obliged if you would tell me how best to deal with these three hives in the spring.—J. H., *Broughty Ferry, N.B., December* 28.

REPLY.—It is much pleasanter to hear of a reader being "too kind" to the bees than not kind enough; but is our correspondent quite sure the combs have "too much food in them"? It is not always reliable to judge by gross weight of hive and contents. Sometimes the sealed combs contain far more pollen than honey, therefore caution is necessary in estimating. As regards dealing with the hives in spring, by reading each issue as time goes on, full information will be found on the subject.

[1890.] *Number of Frames in Hives.*—I have been hoping that some of your correspondents would give their experience with the different kinds and sizes of hives they must have used during the many years they have been bee-masters. But as the information is not forthcoming, may I ask some of these gentlemen to impart this much-needed advice by replying to the following queries?—1. Do you prefer a hive which takes ten frames or one that holds twelve? 2. Do you prefer a hive having outer cases or not? 3. Which do you consider most likely to prevent swarming, the ten-frame or twelve-frame hive? My chief reason for asking is that I want to make some more hives. Those I have take twelve frames and have double walls, back and front, and measure about 18¼ in. from back to front. By taking out the inside walls and making a light brood-chamber, I could convert the hives into ten-frame hives with outer cases, but is the game worth the candle, or will it pay?—MIDLAND, *Rugeley, December* 30.

REPLY.—Our own views on the above questions are so well known that we assume it to be other than editorial opinion that our correspondent desires. We, therefore, will be glad to print any replies that may be sent.

WEATHER REPORT.

WESTBOURNE, SUSSEX, DECEMBER, 1897.

Rainfall, 3·44 in.
Heaviest fall, ·70 on 7th.
Rain fell on 15 days.
Above average, ·72 in.
Maximum Temperature, 53° on 17th.
Minimum Temperature, 21° on 4th.
Minimum on Grass, 19° on 4th.
Frosty Nights, 18.
Sunshine, 94 hours.
Brightest Day, 25th, 6·5 hours.
Sunless Days, 6.
Above average, 37·4 hours.
Mean Maximum, 44·3°
Mean Minimum, 32·7°.
Mean Temperature, 38·5°.
Above average, 2·6°.
Maximum Barometer, 30·62° on 22nd.
Minimum Barometer, 29·10° on 29th.

L. B. BIRKETT.

WEATHER REPORT FOR THE YEAR 1897.

WESTBOURNE, SUSSEX.

Rainfall, 31·43 in.
Heaviest fall, ·95 in., Feb. 4 and Aug. 26
Rain fell on 187 days.
Above average, 1·72 in.
Maximum Temperature, 80°, on July 18 and Aug. 4.
Minimum Temperature, 20°, on Jan. 18.
Minimum on Grass, 15°, on Jan. 18.
Frosty Nights, 62.
Below average, 17.
Sunshine, 1,817·3 hrs.
Brightest day, July 13, 15·5 hours.
Sunless Days, 60.
Below average, 21·8 hours.
Mean Temperature. 48·4°.
Above average, 1·0°.
Maximum Barometer, 30·78°, on Nov. 21.
Minimum Barometer, 28·71°, on March 3.

L. B. BIRKETT.

Echoes from the Hives.

Alness, Ross-shire, N.B., December 31, 1897.—Our bees have come through the winter so far without any casualties, and if the weather keeps fairly good they will, I hope, be in good heart to begin work in spring. There has been no snow as yet on the low grounds, though we have had a few hours of frost at night or in the early morning. Bees were flying in large numbers, even so far north as we are, on Christmas Day, and no doubt enjoyed the outing after a spell of severe frost, which kept them indoors for three weeks or more. The season of '97 was remarkable for the late period of the year during which brood-rearing was kept up; some of my stocks had brood in them in the third week of November. This is later than I ever remember before. It may be that the

ivy bloomed fully a month later than usual. I was at one time a believer in stimulative feeding for bees in spring, but after a lengthy trial I have given it up as useless so far north as this. Bees are better left alone here at that season, as "forcing" won't do any good. Autumn, or before the winter cold sets in, is the best time for feeding, if such is necessary. The syrup should be given in as large a quantity as the bees are able to take—no driplets. I have observed again and again that stocks supplied with plenty of food and bees when packed for winter come out best the following season. Weak and hungry stocks, on the other hand, will take half of the next year to build up, to say nothing of giving any surplus honey. I have, therefore, made it a rule to unite all weak stocks whenever honey-gathering is over.—Wishing all bee-keepers a happy and prosperous New Year.—D. M.

Dunham Valley, Cheshire, January 3.—Friday, December 17, though a sunless day, was mild and warm here. The hives presented a very busy appearance, the air was full of bees and the alighting boards were covered with them. Many returned laden with a yellowish-green pollen which I found they got from a bed of Christmas roses (*Helleborus niger*) which are still covered with bloom. We have since had a week of frost, but that has now gone and mild weather is with us again. On New Year's day I found a sweet-smelling wallflower in bloom. The buds of the weeping willow (*Americana pendula*) are pushing forth, and if the mild weather continues will soon be a source of supply for the bees.—C. Y.

SEASONABLE QUESTIONS

ANSWERED BY G. M. DOOLITTLE.

Bees Freezing to Death.

Question.—I have five colonies of bees this fall, and wish to know, through the columns of *Gleanings*, whether there is any danger of their being frozen to death if I leave them outdoors, where the mercury sinks as low as 30 deg. below zero some winters. I am told that bees often freeze to death in this cold climate; and if such is the case, I fear I may not be able to winter them.

Answer.—People often say to me, "Don't your bees freeze to death out here in the cold all winter?" and I sometimes read in agricultural papers about bees freezing to death; but I always consider such talk as fallacious when it is spoken of in connection with a full colony of bees. Individual bees, or even a cluster of from fifty to one hundred, when separated from the main cluster, often freeze to death, the isolated individual bee always succumbing to the cold with a temperature lower than 40 above zero, unless it warms up within thirty-six hours after the bee ceases to move; but a good colony of bees, in a good hive, with plenty of stores at their command, never dies from cold in a sense that can in any way be interpreted that they froze to death. If we investigate this matter we shall find that, while it is possible to freeze nearly all animal life by exposure to a very low temperature, bees, with plenty of stores near at hand, seem capable of standing any amount of cold, so long as food remains within easy reach. To be sure, the bees on the outside of the cluster may become somewhat stiffened with cold; but those within are nearly as brisk and lively as in summer. The lamented M. Quinby, whose authority is rarely ever questioned, knew this to be a fact when he said that the bees inside the cluster, on a zero morning, could fly as readily as in July, should the cluster be suddenly thrown apart. Then, Elisha Gallup, who gave us so many excellent articles on bees during the latter sixties and early seventies, speaking of a winter in Upper Canada, says:—"The thermometer for sixty days in succession was not above 10 deg. below zero, and for eight of these days the mercury was frozen; yet my bees, in box-hives, with a 2-in. hole at the top, and the bottom plastered up tight, came through in excellent condition." (See *American Bee Journal*, vol. 5, page 33.) While bees here, in Central New York, were never put to so severe a test as that, I have it recorded in my diary where the mercury went down to 30 deg. below zero one winter, and as low as 28 deg. several times; yet, so far as I could see, the bees did not materially suffer from this extreme cold. From experiments conducted with a self-registering thermometer during several winters I have found that, with a temperature of 20 deg. below zero in the outside air, a temperature of 45 deg. to 46 deg. above is maintained within the hive, with the bulb of the thermometer touching the outside bees of the cluster, while an equal number of experiments with the thermometer placed in the centre of the cluster of bees gave a warmth of from 63 deg. to 64 deg. above zero, when it was from 10 deg. to 25 deg. below outside, thus showing that the inside bees of the cluster were very far from freezing. To test this matter more thoroughly, and prove the thing beyond doubt, I took a colony one evening, when the mercury stood at 10 below zero, and suspended the hive about 2 ft. from the bottom board, taking off all covering from the top of the hive, so they were the same as if hung in the open air, so far as bottom and top were concerned; and as the bees did not come out so as to touch the hive in any place, they were very nearly so at the sides. They were left thus all night, during which the mercury had gone as low as 16 below zero, yet the next morning the bees were all right, although the cluster had contracted till it was little more than half as large as it was the night before. Had they been thus left till they had consumed all the stores inside the cluster, undoubtedly they would have suc-

cumbed to the cold; but in that event it would not be a case of freezing to death, but of starving, while the freezing came in as an after consideration.

Since trying these experiments I have come to the conclusion that the freezing of bees, when in a normal condition, is an impossibility, and that all talk about such freezing is merely idle vapourings; the finding of bees dead and frozen only gave proof that the freezing was an effect coming after death, produced by some other cause than cold, such as starvation, bee-diarrhœa produced by long confinement, &c.

This talk about full colonies freezing to death reminds me of the story about the poor church that wanted some hymn-books. They needed the books badly, but did not know where the money to purchase them was to come from. So they called a meeting and instructed the clerk to write to all the book firms whose address he could find, for lowest prices on fifty books; then he adjourned the meeting for two weeks till a reply could be gotten. At the appointed time they came together to hear the result, which was that 50 cents each, or 25 dols. for the lot, was the best that could be done, with one exception. That exception offered them the books for 5 cents each, or 2 dols. 50 cents for the lot of fifty books, providing they would take books having a few advertisements in them. The matter was talked over, and it was thought that a few advertisements on the back part of the book (as we often see on the covers of our Sunday-school lesson-helps) would do no particular harm, so they instructed the clerk to order the 5-cent. books. He did so. It so happened that Christmas came on Sunday that year, and the hymn-books arrived late Saturday night. The sexton carried them to the church, and hurriedly distributed them among the pews, having no time to look at them. The congregation arrived, and the pastor, arising in the pulpit, said that, as it was Christmas morning, it would be appropriate to begin their Sabbath worship by singing the hymn commencing with "Hark! the herald angels sing," &c., and read the first line to the hymn from his own book, and sat down. The chorister struck up, and their surprise and consternation can be imagined when they found themselves singing:—

"Hark! the herald angels sing!
Beecham's pills are just the thing;
Always sure and very mild,
Two for man and one for child.

So with some people who would instruct along the line of bee-keeping pursuits; they suppose they are singing the truth, when afterward it proves to be only advertising for themselves, or idle vapourings of their imagination, or something they have heard in the gossip at the "corner grocery."—*Gleanings* American).

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Dubious (West Dulwich).—*Transferring Bees from Skeps to Frame-hives.*—Reference to the index, in last issue, shows over twenty pages in vol. xxv. on which the subject of transferring bees is mentioned. We may, however, repeat the information, as this is the first number of a new volume. We consider the "best way" is allowing the bees to transfer themselves. This is done by setting the skep on top-bars of frame-hive as early in April as the bees show signs of needing more room. To ascertain when this condition is reached, the skep must be raised gently, and if the bees are seen to cover the lower edges of combs. The frame-hive is set with its entrance as near as possible to that of the skep. In preparing the hive for transferring, the frames are fitted with full sheets of foundation, and a square of American cloth (the size of hives' outer edges), with a 4-in. hole cut in centre, is laid over frames, and the skep set on top. When ready, the skep is lifted gently on to this cloth, and packed warmly and carefully outside the parts where the circular form of skep does not cover frames. The bees will, in a few days, take possession of the frame-hive and thus transfer themselves.

Skep (Kilkenny).—*Granulated Section Honey.* 1. There is no possible means of liquefying granulated honey in sections without melting the comb. 2. All the persons we know of in London who purchase honey have their regular honey producers to go to, and it is not easy to introduce new names to them. Why not advertise?

Alfred Jones (Southport).—*Starting Bee-Keeping.*—1. The very first thing a beginner should do is to provide himself with a reliable text-book on bee-keeping. Without this success is next to impossible without slow and tedious work and many disappointments. Study the essential points that need mastering and then you may hope that what appears in our pages weekly will do the rest. 2. "Whether or not bee-keeping is profitable for an amateur" is so much a question of the amateur's management and the place where the bees are located that we cannot safely reply without fuller knowledge of the location.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 105, Jermyn-street, S.W., on Friday, January 7. Mr. E. D. Till occupied the chair, and there were also present the Hon. and Rev. Henry Bligh, Major Fair, Messrs. W. B. Carr, H. Jonas, J. H. New, T. I. Weston, and the Secretary.

The minutes of the previous meeting were read and confirmed. Three new members were elected, as follows :—Mr. R. Barlow, Penrhyn View, Colwyn Bay, North Wales; Mr. W. R. Bridge, Highfield Quarry, near Bolton, Lancashire; Miss M. Crowther, Norton Rectory, Faversham, Kent.

The Chairman of the Finance Committee (Mr. H. Jonas) presented the financial statement for the month ending December 31, 1897, including the recommendations of the Committee as to payments. The report was adopted. It was reported that the Education Committee had completed their revision of the regulations for examinations, and the proposals would be put into type for submission to the Council at their meeting on February 4. In accordance with the recommendations of the Examiners, the Education Committee have resolved to award second class certificates to Mr. R. W. Garner, Mr. H. J. Morris, Mr. T. I. Weston, and Mr. W. Winterton.

Mr. Till gave notice that at the next meeting he would move a resolution "That the number of members of Council be increased from fifteen to twenty-one." This resolution, if approved by the Council, will be afterwards submitted for endorsement by the general meeting of members.

THE "ROYAL" SHOW OF 1898.

The attention of readers is invited to our advertising pages this week, wherein appears the prize list for honey, hives, &c., offered for competition at the "Royal" Show, which takes place at Birmingham in June next. Compared with last year's list, it will be seen that only two changes of much consequence appear, viz., the substitution of a class for "*Best Display of Honey in any form*," in lieu of the Special County Honey-Trophy competition, and a new class for *Most Suitable Outfit for a Beginner in Bee-keeping*. Beyond these we need only mention that heather honey is ineligible for the class (352) for dark honey; and that granulated honey (in class 355) must have been gathered in 1897 or previous years.

HONEY AND ITS PRODUCTS.

We have been favoured with a copy of the quarterly journal of the Royal Agricultural Society of England, in which among the specially written articles, appears a paper on "Honey and its Products," by W. H. Harris, B.A., B.Sc. Mr. Harris (who has for many years been an active member of the Council of the B.B.K.A.) deals with the question of honey first as an article of diet; second, for medicinal purposes; third, in cakes and confectionery; fourth, as a beverage; and fifth, as a condiment. Under these several heads we have a terse, but sufficiently comprehensive, account of the various uses to which honey may be put, an account rendered all the more valuable as coming from the pen of one who not only keeps bees himself, but is the author of a text book on their management. The opening paragraph of the section on honey as an article of diet is a fair sample of the way in which the subject is treated. In this Mr. Harris says :—

"As an article of diet honey holds high rank. It is well known that fats, starches, and sugars supply the chief materials for the evolution of energy, and for keeping up the heat of the body by respiratory combustion. They are comparatively valueless for muscular repair, while the more nitrogenous foods are a costly means of warmth and generation of force. Both are dependent for efficiency upon the oxidation of carbonaceous and hydrogenous materials in the blood. Now, fatty, starchy, and saccharine substances consist almost wholly of oxygen, carbon, and hydrogen, and, when reduced to a completely soluble condition and carried in the circulatory system, provide in the best form the supplies for the two purposes above mentioned. But they differ among themselves in the rapidity with which they can be brought into action. Fatty matters when first taken are quite insoluble. They require to be acted upon by certain secretions, and changed in nature, before they can be absorbed. Starchy or amylaceous compounds are equally insoluble, and must be altered into sugar before they can be taken into the circulatory system. Saccharine substances, on the other hand, can almost immediately be completely dissolved and applied to their destined ends. But there is this further noticeable fact. There are two main classes of sugars—cane, or sucroses, and grape and fruit, or glucoses. Now, physiologists tell us that the former must be converted into the latter—the change consisting in the addition of one chemical molecule of water to the sucroses—before they become available for alimentary purposes. But it happens that in honey the sweet matter *is already in this requisite condition*. We have, moreover, the following very interesting fact: that, while most of the saccharine material of nectar consists of *cane*-sugar, it undergoes in the crop of the bee the above-mentioned chemical alteration, and is completely ready for digestion."

It will no doubt gratify all who are interested in bee-keeping, along with ourselves, to

know that the subject has been ably dealt with in so important and influential a journal as that of the Royal Agricultural Society. By its means the claims of the Bee Industry will be brought before the notice of the very persons whose influence extends to the class we seek to benefit.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

APICULTURAL NOTES.

[3129.] A slight alteration in the wording of my "Notes" last week—made after the MS. left my hands—conveys the impression that some of my bees are being wintered on sugar. This is an error (unintentional, no doubt). My mention of "anxiety as to supply of food" referred to stocks generally—*not mine*. As a matter of fact, the whole of my stocks are, as stated in previous notes, well supplied with natural stores, sufficient to carry them well into May. Being free from the trouble and expense of making syrup in the autumn and candy in winter is indeed something to be thankful for, and to me a new experience, very much appreciated. On packing up my bees in the autumn, I made up my mind not to open a single hive during the whole of the winter months—not even raise a quilt. But I was compelled the other day to slightly forego that good resolution—a horse broke into one of my apiaries and knocked over a hive. On inspection, some of the bees (including the queen) were found jammed between the combs and killed. Those that were left were united to another stock. Both hives—opened in consequence of the mishap—contained an abundant supply of honey. Indeed, I was astonished to see what a small quantity had been used, considering how mild the winter has been, and the frequent flights of the bees. I have, therefore, not thought it necessary to make any further inspection.

Two-pound Sections.—After working three hives last summer for 2-lb. sections, I don't like them. They take longer to fill than the 1-lb., and in consequence greater risk of getting two kinds of honey in one section; or what is nearly as bad, two shades in the colour of the sealing, which spoils their appearance. They are also inconvenient to handle when clearing and packing, and are difficult to dispose of. I was obliged to cut up several and drain the honey as I could not dispose of them, while, at the same time, I got orders for more 1-lb. than I could supply. I have, therefore, once and for all bid good-bye to the 2-lb. section.

Packing Honey.—Some little time ago I met a dealer who buys tons of comb-honey in sections each year, and in course of conversation was surprised to learn that he frequently receives consignments of sections nearly all smashed on arrival. Asked what was done in such case, he replied, "The honey is strained, weighed, and sender allowed value for weight. The sender is then advised to claim compensation from railway company for any difference in value." No doubt some cases of breakage can be rightly attributed to the railway companies. Their servants are only human and not free from faults; nor are they exempt from accidents more than other people. But I am convinced that in nine cases out of ten where sections are broken in transit it is owing to bad packing. To prove this let me add that during the past season I sent by *goods train* considerably over 100 *dozen* sections a distance of nearly 200 *miles* without a single complaint of breakage, which shows I think that there is practically no risk in sending section honey by rail provided the packing is right.—ALLEN SHARP, *The Apiary, Brampton, Huntingdon.*

HORNETS AND WASP STINGS.

[3130.] I wish to thank your correspondents "W. F. Reid" and "H. S." for the information given by them *re* hornets, pages 504 and 514, in vol. 25 of B.B.J. I was afraid that these insects had all but ceased to exist in this country, as, previous to last season, I had not seen a hornet myself or heard of one being seen in this country for twenty years. My experience of hornets agrees with that of Mr. Reid's—viz., that unless their nest is disturbed, they are harmless creatures. I have known children to stand quite near and throw stones into a hornet's nest without being stung. Hornets, however, are (according to accounts in *Record*) great enemies to bees and bee-keepers in Egypt, but Mr. Reid's experience shows that they are the reverse in this country.

Wasps.—The only flower that I have noticed the wasp to have any affection for is the bloom of fennel, of which they are very fond. Although it has a very disagreeable odour wasps will visit it from dawn till dusk, as long as it remains in flower. Last August our doctor, finding that bee stings have now little or no effect on me, suggested my trying whether immunity from the effect of wasps' stings might be secured in the same way. I acted on this suggestion, and for a month (except on cold days, when I was unable to secure any wasps) I caused one, sometimes two, wasps to sting me in different parts of my body, at about the same time every day. I found that, just as with the sting of the bee, the blood soon gets inoculated, and little effect (sometimes none) is experienced from a wasp's sting—after getting one or two stings every day for about three weeks.

Can some bee expert who is a medical man, tell us what poison it is in the sting of the wasp? Its effect on me is quite distinct from the bee's sting, being much more painful. The poison of the wasp's sting has also more effect in one part of the body than another—especially where the sting touches bone; but this is the same with bee stings. I made daily notes of the effect of the stings on myself, but will not trouble you with them. Wasps did not thrive last season in our part. A nest that I dug out close to my apiary, and have preserved, was no larger at the end of the season than I have seen them in July. Mme. Vespa and her offspring, however, does much good in a way, by removing other insects and carrion that would be a nuisance to us. By keeping my stocks strong they do me little or no harm.

Bee Paralysis.—The present would be a good time to discuss the cause of paralysis in bees, and the remedy. A large number of my bees were attacked with this disease last summer. In 1894 also I had thousands of paralysed bees crawling about the apiary. Previous to that year I had not noticed it, nor were my bees troubled with it in 1895 or 1896.—WM. LOVEDAY, *Hatfield Heath, Essex, January 3.*

P.S.—Having read the letter of "J. C." (Godalming) on page 7 of last week's B.B.J., I extend my thanks to him, and am forced to conclude that hornets, like most other things, must be kept within reasonable limits.—W. L.

BEE PROOF AND PROGRAMMES.

[3131.] I read with interest the letter of "H. S." on page 3 in your last issue, and while admitting the evident desire of the writer to advance the pursuit, I was sorry to observe how illogical are his deductions, and by what a curious method of reasoning he arrives at, and puts forward, certain tenets upon which to base a programme for carrying out the end in view. Take for example, first, the question with regard to tossing a penny (mentioned at head of page 4). It is an ascertained fact that persons addicted to this pastime can spin a coin in the air, then catch and expose it with either the head or tail uppermost, at the will of the spinner, nine times out of every ten. The secret of this *science* consists of starting from a preconcerted face of the coin, spinning at an angle with the same force, watching the disc against the light, and catching it every time at practically the same point, with the result indicated. It can be done with a little practice the multiple of times mentioned by "H. S.," with the percentage of heads or tails stated above. But this is simply the *art* of gambling, and requires learning, much the same as everything else, even the art of bee-keeping. The second point is the value of naphthaline on the take of honey at the end of a season. What part in the proposed tables will naphthaline appears to prove it responsible for the increase in the take of one hive over another, as to the quality of honey, superiority of cappings, consistency, and flavour. Undoubtedly the experimentalist would start with two healthy stocks, and should both be found healthy at the end of the season, what portion of the programme would the presence or absence of the naphthaline fill? The management of bees and getting honey is, to my mind, the art of bee-keeping. Does "H.S." overlook the fact that there are bee-keepers in this country who have been engaged in the craft for periods varying from ten to forty years, and have during that period owned from forty to over one hundred hives at a time, and make bee-keeping a financial success. Many of these make a scientific study of it to boot, and give their experiences freely through your columns, and I would ask, are their opinions to be included in the category of "a kind of a guess"? I fancy that when your correspondent gets a little further along in his bee-keeping, he will find that, as in tossing a coin, he must start his bee-keeping the right way up, drive it upwards just the required distance, and stop operations at the right moment, if he wants to attain success nine times out of every ten. He will then be able to repeat the experiment to the mathematical extent desired, and without an imaginary or a fanciful general law that "bees cannot be handled with ease" quite as easily as ants. Spare yourselves, Messrs. Editors, and *be kind* to your readers.—T. ERMITE, *Holborn, January 7.*

EYESIGHT OF BEES.

[3132.] Referring to Mr. Brice's remarks on the subject of bees' sight (3119, page 514), I do not think bees can see very well immediately after leaving a dark hive, and give two instances which seem to prove this. I have a high wire fence standing about 6 ft. in front of my hives, and all day long, when the bees are flying, they bump themselves against the wires on leaving the hives, though they seldom or never do so on returning. Again, I remember two years ago watching some bees escaping from a small hole at the back of a hive. The latter was placed under the shade of a tree, and near a high wall; it was, therefore, in deep shadow when the sun shone. Immediately opposite the hole from which the bees were flying, and about 18 in. from it, was a hive newly painted white, with the sun shining brightly on it. Now, nearly every bee flew straight towards that white hive and bumped its head against it. This could hardly have been done for pleasure, and my idea is that bees on issuing from the dark hive into bright sunlight always fly to the lightest spot, and are unable to distinguish between a white hive and the sky, unless, perhaps, they see the latter first, as they were unable to do in this instance.—E. W., *Erith, Kent, January 4.*

PHLEBOTOMY.

[3133.] Referring to the letter on page 6 of your last issue on the "Prospective Pleasures of Phlebotomy," allow me to say that your correspondent very much overrates the matter. *My* experience is *most* disappointing; we have had for President one of the most able and most noble of men: at the same time I have no hesitation in saying that a more anæmic subject I have never set eyes on. The sharpest application of the pen has not produced the smallest effect.—A. Leech, M.D., *January* 8.

REVIVING CHILLED BEES.

[3134.] A French correspondent of the B.B.J., page 508, vol. 25, asks our editors "Is there any means of avoiding loss by bees getting chilled?" My apiary is on high ground, with very little shelter of any kind, and in spring, when we get tempting sunshine accompanied with cutting east wind, I pick up hundreds of chilled and apparently lifeless bees in and about the apiary in a single day. I make a tour of the apiary several times in the day for this purpose, wearing on these occasions an old hard hat, into which I put all the chilled bees that I can find, and replacing the hat on my head. In a few minutes the warmth of one's head has an effect; you can feel the reviving bees beginning to move, and most of them recover and fly to their several hives in less than half an hour. About 95 per cent. of the chilled and apparently lifeless bees recover with this treatment. The bees do not sting the head unless hard pressed by the hat. The grateful and merry hum of a hundred reviving bees fills the hat with their music. On one occasion, a few years ago, I picked up nearly a pint of chilled bees, placing them in my hat on the kitchen fender while I ran back to fetch something else from the garden. The bees began to revive in less time than it takes to tell, and my baby, attracted by the humming, took possession of the hat, and we had a lively and memorable five minutes in consequence.—Wm. Loveday, *January* 3, 1898.

NUMBER OF FRAMES IN A HIVE.

[3135.] As you invite replies to the inquiry of "Midlands" on page 8 of last issue, I venture to write and give my views; though no longer an active bee-keeper, the questions relating to matters in which I still take much interest.

1. The great objection to hives with more than ten frames is that they are difficult to handle when full of honey. They are also troublesome to ventilate in very warm weather. No doubt larger hives have some advantages, as, for instance, it is easy to put three frames of foundation in the centre to prevent swarming when bees have a tendency to do so.

2. Outer cases are far the best as they can be packed in winter and spring and the packing can be taken out in summer. I am confident that permanently-packed double-walled hives tend to swarming, as they keep the hive too warm at night. For winter the floor-boards should also be packed, and it does no harm in summer if the hive is well-ventilated. For wintering the bees should have impervious quilts with plenty of wraps of any sort above. There will then be no need of winter passages, or raking out bees from the entrance, and the bees will consume hardly any honey till breeding is in full swing in the spring and the consumption of stores becomes very great. Feeding should always be the exception and not the rule.

I have constantly wintered nuclei as above and have never lost any except through accident, but the nuclei should be worked up to four or five frames before the winter.

3. To prevent swarming with a hive of ten frames it is necessary to put a box of ten frames under it, and they should be shallow frames. In this box the best plan is to put four sheets of foundation in the two centre shallow frames; somewhat less in the two adjoining frames on each side, with starters in the outer frames. Fitted in this way, the shallow frames are never all worked out at the end of the season, whilst the contrary is the case if starters only are used, and a lot of drone-brood is raised in the centre combs. After the sections are fairly started I never interfered with the shallow frames or the body-box till the end of the season unless the bees showed a tendency to swarm, which was, I found, by no means a frequent occurrence, though my bees were hybrid Carniolans. The entrance to the box, if shallow frames, should be the entire length of the box, and the ends of the frames should be towards the entrance. This shallow-frame box should also be raised in very warm weather, so as to allow free circulation of the air all round. If raised by bits of sections the bees can only get out in front, *i.e.*, at the entrance.—T. F. L., *Brondesbury*, *January* 8.

[We are very pleased to learn (from a line at foot of above communication) that there are hopes of our esteemed correspondent resuming his active touch with the bees; but whether or not this pleasure is in store, we heartily congratulate "T. F. L." on his having now overcome the effects of the attack of influenza, which was the main cause of his giving up bee-keeping.—Eds.]

HONEY IMPORTS.

An account showing the value of honey imported into the United Kingdom during the month of December, 1897, £1,489.—*From a return furnished to the* British Bee Journal *by the Statistical Office, H.M. Customs.*

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

If there is anything in the principle of heredity it will explain why Mr. P. Scattergood, Junr.—whose apiary is seen, together with himself and wife, in the picture below—is to-day one of our most ardent bee-keepers. Fifty or sixty years ago his grandfather kept bees, and was considered very successful with them, while some twenty-five or thirty years ago an uncle owned a large number of hives in North Notts, having at one time had an apiary of 240 colonies in frame-hives and skeps.

MR. P. SCATTERGOOD'S APIARY, STAPLEFORD, NOTTS.

Mr. Scattergood is, we believe, the oldest member of the Notts B.K.A., which he joined at its formation in April, 1884, and the only one remaining of those who became members at the first meeting, held on April 30 of that year. His bee-keeping dates a little earlier than this; and, having caught the bee-fever, he began making his own hives, engaging in "driving" expeditions, and, as he says, made the error, so common to beginners, of having more stocks than he could manage. In this way, and through various causes—coupled with the severe winter of '87—he lost all his twelve hives, gained some useful experience, and, nothing daunted, began again. This time he went more steadily to work, and his present apiary is the outcome. Writing us as to his present views, he says:—"I have tried various kinds and makes of hives during the last thirteen years, buying, making, and selling again many styles and types of hives, gaining experience as I went on; but I like the "W.B.C." hive best of all, and gradually all my present hives will give place to this kind." The hives seen are by various makers, while several—including the "Wells"—are home made.

"As will be seen, the apiary is situate on a hill-side near my house, and is arranged in terraces, but the picture, which could only be got from a bed-room window, hardly gives a correct idea of the contour of the ground; the top of the hill being about seventy feet higher than the roadway."

We learn, also, that the garden is fully planted with choice fruit-trees; while among many beautiful flowers grown in profusion in various beds, the rose evidently finds a large place in the garden and in the heart of its owner, upwards of 400 trees of various varieties finding a place on the "hill-side." Nearly all these fruit and rose trees have, we believe, been raised, budded, or grafted by our friend himself, who never tires of the enjoyment afforded by garden and bees.

Mr. S. further says: "The district is only a

moderate one for bee-forage, but honey of very good quality is sometimes obtained." He also adds: "I sell all my own honey, and at times a good deal for friends. All is sold locally and retail without difficulty, but I never sell any but the best quality, and, being made-up attractively, customers come year after year."

Our friend is in the prime of manhood, is forty-two years of age, has a good wife and a happy home. Full of buoyant energy, he is a busy man, and holds several responsible appointments, among others being those of Clerk to the School Board of his native town, Secretary and Manager to the Waterworks Company, an Overseer of the Poor, and a prominent member of the Parish Council. He is also a local preacher and Sunday school teacher. Though having no family of his own, he is a dear lover of the young and a general favourite with the young people. Full of schemes to help his fellow-men, he is always willing as a bee-keeper to impart instruction and to give help to all who need it. A diligent student of natural history, he possesses a library on bees and bee-keeping and kindred subjects of which any man might be proud.

In conclusion, it must be added that Mr. Scattergood is a familiar figure at the Quarterly Conversaziones of the B.B.K.A. in London; nor does he grudge a long journey to town in the "Dairy Show" week. Holding the 1st class certificate of the Association, he has done good service in lecturing on bee-culture in connection with Technical Education, and frequently takes charge of the bee-tent at Shows, where his ready speech and hearty manner are much appreciated by listeners who are onlookers. We hope his activity among the bees may long continue.

BEE CULTURE AND FOUL BROOD.

The methods of managing bees has been frequently described by experts in various forms of bee literature scattered over the world; so that the novice can readily obtain any information he needs, and by following it he will doubtless succeed in apiculture. But the most important subject for bee-keepers is how to avoid foul brood, which is a fearful and fatal malady, for bees cannot, like cattle, be confined to a small area, but fly abroad for a radius of three or four miles. Some years ago, to oblige a friend, I bought some bee appliances, and, although I took the precaution to only use the new combs, after thorough disinfection, my bees contracted foul brood from them. I then burnt the frames containing cocoons, and tried nearly every known treatment at very great labour and considerable expense, but ultimately all my bees died. From those frames that I did not burn I cut out the combs and melted them with a Gerster extractor. The frames I boiled twice, and dressed the bar-hives, destroying the skeps. I am only keeping a few hives, for foul brood broke out amongst a neighbour's bees (twelve stocks) last winter and they are now nearly all dead. I examined the hives after harvest, and sent pieces of comb from them to the Editors of BRITISH BEE JOURNAL, who confirmed it a case of foul brood. The apiary has also been visited by an expert. The owner, however, will not take any trouble or allow any steps to be taken to do away with the diseased hives, and they continue as a source of contagion. I I have inquired of the assistant secretary of the Association at Boston, and he told me of the following cases of foul brood which have come under his own personal observation in the immediate district since 1895. For obvious reasons he does not mention names. He says: "Taking my own case first, in 1895 I owned two strong stocks, which yielded a good surplus, but in the autumn I found them to be diseased. I tried the usual treatment, but with only temporary success, and early in the following year I destroyed both stocks. In the year 1896 I began again with four new stocks. They gave excellent results and increased to seven. By the autumn every one of these stocks was diseased, although all the hives, frames, &c., were entirely new. After joining up in the autumn and again in the spring, two stocks survived, which I have completely cured; but the disease has broken out again in a fresh stock in a somewhat mild form. I find, on reference to my bee-book, that although I only keep bees in a small way, this dread disease has cost me ten stocks in a very few years.

No. 2. Bought upwards of a dozen stocks and *a hive full of honey* (but no bees) which he allowed the bees of the other stocks to clear out. By the autumn following every stock was diseased, although only one hive had shown a trace of foul brood in the spring on examination by the expert. Now these stocks are all dead. The deserted hive full of honey was subsequently examined and found to be reeking with disease.

No. 3. Owned four fine stocks. The man in charge left an empty, foul-broody skep to be cleared out by the bees. Every stock is now badly diseased.

No. 4. Owned four stocks. One was found to be affected with foul brood. He took no steps either to kill or cure, and, subsequently, sold them without giving any warning, one to a person residing within twenty yards of my bees, the other to a working man. My neighbour destroyed his stock and actually let other people's bees (mine included, of course), carry off the honey.

No. 5. Owned two stocks and declined to take any steps, though both were diseased. They finally died *and the hives* were robbed out.

The above cases are situate within a circle *of half a mile.*

I heartily wish that the British Bee-keepers' Association and all the County Associations affiliated thereto will unite and take steps to

induce the Legislature to draft laws to stamp out this dire disease, then the land can be supplied with pure honey and bees to fertilise the blossom and increase the fruit. — ROBERT THORPE, *Lincs.*

[We reproduce (by request) the above letter which appears on the county cover of the *Bee-Keepers' Record*, as issued by the Lincs. B.K.A. Nor have the committee of the Association been unmindful of the mischief brought to their members, as is shown by the footnote which follows the latter, wherein the Hon. Sec. says :—" We are very sorry to read of the sad state of affairs in the foregoing letter, and it is most difficult to know what to do in the case. The disease there has long been known to the committee, and our expert has thrice been to visit these diseased apiaries last season, but his advice cannot have been acted on or the hives would not have been left, after the bees had disappeared, for others to rob the honey. It is the opinion of the committee and other members of our Association that there never will be a clean bill of health until compulsory powers given to some central body to destroy all diseased stocks and compensate the owners for their loss."

It affords one more case proving the need for legislation.—EDS.]

Queries and Replies.

[1891.] *Dealing with Swarms.* — In the event of my not being able to prevent my bees swarming next season, and on the supposition that I do not wish to increase the number of my stocks, will you kindly tell me whether the following course of action would be right, and, if so, the one you would suggest in preference to returning the swarm ? 1. I propose to hive the swarm on five frames supplied with foundation starters. Place this hive on the stand previously occupied by the parent stock ; removing the latter a little distance. Take sections off parent hive and put them on the swarm. 2. At the end of nine days, the weather being favourable for young queen to be mated, take away the old queen from swarm and unite them to stock with young queen and replace sections.—C. H. L., *Skipton in Craven, Yorks, January* 4.

REPLY.—The plan we advise, in preference to either of those mentioned, is to allow the bees of parent hive to remain and work in it till end of season, then unite, after removal of old queen, if the young one proves a satisfactory breeder. By this means you will lose little, if any, of the year's surplus from the prime swarm—as the shifting of stocks at swarming time secures the bulk of the foraging bees to the swarm—while restricting them to five frames insures nearly all surplus storing above brood nest. You thus get the benefit of both queens' breeding powers for adding to the winter population of the hive, and can make up the full number of frames by giving five combs of food from the parent hive when uniting at close of the season.

[1892.] *Confining Bees before Removal.*—As I shall be compelled to move some of my hives from their present location will you kindly advise me if I shall be right in proceeding as follows :—The bees are in circular straw hives fitted with frames which I made on purpose for convenience in swarming. The place where they now are is about 100 yards from my own garden to which they will be brought. A fortnight ago I put them on clean floor boards, covered entrances with perforated zinc, and put them away in an empty fowl-house which I have darkened for the purpose. This is what I have so far done, and I ask how long I can keep the bees prisoners with safety, so they may not return to the old spot when put outside and released ? I weighed the hives again to-day and they had only decreased in weight from one to two pounds after a fortnight's confinement. I found, however, a good many dead bees in the mouths of two hives, and this causes me to ask is there any danger of suffocation ? My present idea is to confine the bees for six weeks in all, and then, if weather is favourable, put them on the new stands. In concluding I should explain that most of the stocks were driven bees last autumn and fed as quickly as possible. I will follow the course you may advise if my own plan is not right. I have fourteen stocks in all, but will only have to move the nine referred to above.—W. BROWN, *Exeter, January* 10.

REPLY.—Our advice is to put the bees on the stands they are intended to occupy and remove the covering from entrances with as little delay as possible. In such changeable weather as we are at present having, with days intervening quite spring-like in warmth, there will be constant risks of suffocation or death of bees in their efforts to escape for flight. Of the two evils consequent on removal for so short a distance as 100 yards, or confinement, the latter is by far the greater and should be remedied at once.

[1893.] *Choosing Appliances.*—1. Will you kindly say if you think that the "Crane" smoker is more effective and has more good points than the other kinds ? 2. It is advertised with straight and bent nozzle. Which is the handiest ? 3. Would you advise a "Guinea" extractor or a "Raynor" for extracting frames and *sections ?* The "Raynor" costs more. Is it really worth the extra ? In extra usefulness I mean. It is also sold in *two sizes.* Which is best and most generally used ? 4. If I made a pound of "Good's" candy in the spring, and kept it in a glass jar, would it keep fresh all the summer ? 5. In examining hives in spring one is told to "unite

weak stocks, if *worth uniting*." How does one dispose of the few bees that may not be worth uniting?—G. M. S., *Keswick, January* 8.

REPLY.—1. Personally, we do not think the "Crane" or any other bee-smoker equals the latest and best form of the "Bingham." 2. Of the two kinds we should prefer that with a bent nozzle. 3. Our preference is for the improved "Raynor" (cog-geared), that being the one we use. Of course, the cheaper makes are very good for the purpose, but the extra cost of gearing is well earned in extra efficiency. 4. "Goods'" candy, being simply honey made thick by adding icing-sugar, will keep just as well as the honey alone would. 5. The disposal of such small lots of bees as are useless for uniting is entirely one for the bee-keeper. Our plan would be to mercifully end their existence with a little burning sulphur.

Echoes from the Hives.

Sussex, January, 5, 1898.—Just as a mark of the extraordinary mildness of the weather, I mention that on Sunday, January 2, about 1 p.m., I noticed several bees entering one of my hives laden heavily with orange-coloured pollen, possibly derived from wallflowers. In several hives the bees are utilising the candy given them to build comb in the glass-covered boxes, and just before the end of the year they made considerable progress in robbing a queenless stock with great energy, taking about five minutes to master the secret of a glass slip placed over the narrowed entrance!—W. R. N.

ABOUT BEES.

There is an ancient Welsh legend to the effect that bees were sent out of Paradise with Adam and Eve, but with a blessing instead of a curse. Most non-Christian mythologies treat of them as belonging to the Golden Age, when they provided the food and drink of the Gods. The nectar and ambrosia of Olympus were largely composed of the honey of Hymettus, and the roofs of Valhalla echoed the laughter of

Heroes drinking deep draughts of mead.

In India and Egypt of old, bees were closely associated with divinity. One of the avatars, or incarnations, of Vishnu, the second deity of the Hindu Trimurti, was in the form of a blue bee. The black bull, Apis, which was supposed by the Egyptians to be a living shrine of the godhead of Osiris, in his temple at Memphis, was chosen for having a white mark, in the form of a bee, on his forehead. A trace of this connection was possibly brought into western Europe; for it is recorded that when the tomb of the Frankish king Chilperic was opened, there was found in it an ox's head, modelled in gold, among some hundreds of golden bees. An Alsatian legend relates how, a man having stolen the sacred Host, threw it into a corn field, where it hung, supported on three ears of corn; then the bees came along, and built over it a chapel of honeycombs. This legend has almost a parallel in Switzerland, where its date is thrown back to the Golden Age. In it, the act of piety was shown to the body of a shepherd, who had been drowned in a lake. The lakes in those days were full of milk, and the shepherd's body had risen to the surface in the cream! The slabs of honeycomb of which this chapel, or tomb, was built are said to have been each as large as a town gate.

In some parts of the South of England, especially in Wiltshire and parts of Surrey and Berkshire, the bees are held in superstitious reverence. They must be kept constantly informed of all the news of the household, great and small; and should they not be immediately told of the death of the master of the house, it is believed that they would all waste away and disappear within a year and a day. The same superstition prevails among the German peasantry in the neighbourhood of Munster.

It is rather remarkable that Solomon, though he extols the wisdom of the spider and the prudent forethought of the ant, does not say anything about the conspicuous industry of the bee. But it was by no means left for the ingenious Dr. Watts to discover the virtues of our insect. Many classical authors have described them, and chief among these is Virgil. Minute as was this writer's knowledge of their domestic economy, he does not seem to have recognised the queen-bee as the mother of the hive. He speaks of the community as ruled by a king, and in this he is followed by Pliny. At Folsbach, in Germany, there is a church, on one of whose walls is carved a large bee-hive in commemoration of the zeal and industry shown by the inhabitants of the place in erecting their sacred building.

The settling of a swarm of bees on a house was in ancient times regarded as a bad omen, generally as foretelling fire. Perhaps this may be the origin of the din of pan, poker, tin-tray, and all other instruments of discord, kept up by country folk at a swarming; its primitive object having been to drive the insects away from the dwelling. Pliny relates how the defeat of Drusus was foretold by the arrival of a swarm in his camp. The appearance of a solitary queen-bee, on the other hand, was looked upon as most propitious, and it was said that one settled on the mouth of Plato in his infancy, giving him the gifts of rhetoric and persuasion. Pausanias said that Pindar was endowed with poesy by bees, and Varro calls them the "birds of the Muses."—*The Golden Penny.*

THE "NEW STYLE" SECTION.

CLEATED SEPARATORS AND NO BEE-WAYS.

Writing in a recent number of *Gleanings* on the above section, now being introduced by the A. I. Root, Co., the junior Editor, Mr. E. R. Root, says :—

"At several of the different yards I visited in York State I noticed that the four-piece sections were still being used in preference to the one-piece, notwithstanding that the former costs more and takes more time to put together. I never could exactly understand the reason, unless it was that there was a time when the one-piece sections that used to be sent out would, when folded, incline toward a diamond form rather than a true square; and this "fault" induced many to use the four-piece section. During the last few years nearly all manufacturers, I believe, have discovered that it is as easy to make the one-piece assume a true square as a diamond form; and latterly I have been noticing that the one-piece was creeping into the territory of the four-piece. But, as I said, several are even now using the four-piece, and this preference seems to be due to the fact that these sections offer facilities for scraping that the one-piece with the ordinary openings does not. It will be remembered that the four-piece section has an opening clear across the top and bottom of the section, while the opening of the one-piece is scored out of the wood, and reaches to within half an inch of the corner. At one or two places I was shown that the scraping-knife could at one sweep go clear across the top edge of the section, and in the same way go down the side edges of the section. But in the case of the one-piece, the knife had to dip down and out again.

At the apiary of Mr. Miles Morton, Groton, N.Y., I found not only four-piece sections, but sections with practically no openings at all, the bee-space to the sections being effected by cleats on the separators. I said "practically no openings," for the top-bars of the sections were narrower by $\frac{1}{8}$ in. than the side-bar. In other words, there is an opening $\frac{1}{8}$ in. wide between the tops and bottoms of the sections when put close together. Of course, this would not be room enough to let the bees between the sections. Accordingly, separators are used cleated, the cleats being $\frac{1}{8}$ in. thick, and so spaced on the separator that they come just opposite the upright edges of the sections. The $\frac{1}{8}$-in.-thick cleat, and the $\frac{1}{16}$ in the sections, make just exactly a bee-space of $\frac{3}{16}$ in. As these separators are cleated on both sides (the cleats being held in position by glue), the regulation bee-spaces are preserved in the sections while in the supers. But you may ask why Mr. Morton did not have *all* the bee-space in the sections like those all the rest of us use, instead of two-thirds of it in the separator. I can answer this question by saying that, if you were to look over his lot of comb honey, you would at once see the reason. The comb surfaces come within $\frac{1}{8}$ in. of a straight edge resting across the sides of the section, and $\frac{1}{16}$ in. from the same straight edge reaching across the tops and bottoms of the section. The consequence is, the section appears to be fuller, and looks much nicer! When I examined this lot of honey I said, "Why, you have selected this because it is filled out well."

"No, sir," was the reply. "It has not been graded at all."

Then I looked over some supers just as they came out of the hive, and pulled out sections here and there at random. They were all alike. Mr. Morton's honey would grade, according to my notion, "extra fancy" right alongside of ordinary honey placed in sections having a bee-space, that would grade only about No. 1.

Perhaps it may occur to some that a cleated separator, such as I have just described, would involve the use of a great many pieces, and a good deal of work to put them together. For the ordinary $4\frac{1}{4}$ section there would be, in fact, eleven pieces. I must acknowledge that I myself felt that the nailing-up of such a separator would be simply awful—that one would get tired of pottering with so many little pieces and so many nails to get one separator. For several years back we have been making cleated separators; and till lately I felt sorry for any one who thought it necessary to use such a clap-trap. After being at Miles Morton's, however, I not only saw the great value of such a separator, but found that the labour of putting it together could be very greatly reduced by using cabinet-makers' glue. Mr. Morton uses a form which spaces the long strips and the short ones just so far apart. The separate pieces are dropped into the form, and those surfaces that are to come in contact are smeared with glue, when the strips are laid in their proper positions. As the form is made to take a deep pile, the stuff is piled up, as it were, like cord-wood, and very rapidly, too, by any kind of cheap help. After the pile has been made, the tier of separators is lifted out of the form very carefully, set to one side, and a weight placed on top. In a few hours these separators are ready for use. You may think that the glue would not hold; but Mr. Morton assured me that he never had any of his separators break at the glued joints. Holding in my hands part of a separator that had been glued together, I tried to pull the stuff apart with my fingers, and actually had to give it up. (A later attempt separated the parts, but the wood itself gave way, and not the glue.) Everything depends on having good glue. The ordinary prepared article would not be suitable for such a purpose, and, besides, it would be too expensive.

You can get somewhat of the effect of non-bee-way sections filled with honey by taking a series of sections filled out about equally, and, with a common smoothing-plane, planing the edges of the wood of the section until the bee-space (or scoring-out) almost disappears.

Place four sections so dealt with by the side of those that have not been planed off; then note how much prettier the former look. J. E. Crane, of Vermont, showed me this trick seven years ago.

I was not surprised when Mr. Morton's brother-in-law, Mr. S. A. Niver, told me he could get a higher price every time for Mr. Morton's honey because it looked so plump and nice—much more so than he could ever get for sections having a full bee-space.

Coming home, I found our friend Mr. Francis Danzenbaker, who uses a section with a bee-space on one side, and none on the other. He placed four sections filled with comb honey on the table, with the bee-space side *toward* us, and from the same lot he placed four other sections, exactly like them, also filled with comb honey, with the no bee-space side facing us. Any one who failed to see that the last four looked several cents better per pound than the first four mentioned must be blind indeed. I observed to Mr. Danzenbaker, that "as the side of the section having no bee-space looked so much nicer, why not go one step further and take the bee-space off the other side as well, and use a double-cleated separator?" He was afraid that no bee-space sections would not crate well in the shipping-case; and he thought, moreover, that such a section appeared too lean when looked at from the side.

So far as the "crating" is concerned, Mr. Morton crates his honey right along without any difficulty, but he always uses a piece of thin veneering between each row of sections. Regarding the "leanness," I could not see that it made any practical difference.

Ever since my return home from the East I have been thinking how great would be the advantages accruing from sections having no bee-space, but perfectly flat on both sides. They would be cheaper and easier to make, far handsomer when filled with comb honey, and, when it comes time to scrape their edges, how much easier to go over them with a scraping-knife! Just picture, in your mind's eye, a section having a perfectly flat side so far as the wood is concerned, without any bee-space. Now (in your mind's eye also) take a common case-knife and clean the propolis off from that whole side of the section, with *one sweep*, no jutting corners nor curved openings to dodge into and out again—absolutely no danger of gouging into the honey. Or, if that be not plain enough, take a smoothing-plane and shave off enough wood from a section to obliterate the openings or bee-ways on both sides, top and bottom; then take a case-knife and lay it near one corner and notice how easily you can scrape the whole four sides at one swing of the knife.

But this is not all. With the no bee-space section we affect a great saving in shipping-cases. Suppose, for instance, you take a $4\frac{1}{4}$ section, and leave off the bee-ways, you will find it to be $1\frac{1}{2}$ in. full instead of $1\frac{7}{8}$. If we use double-cleated separators, it will hold just as much honey as the $1\frac{1}{4}$ with openings. Well, then we can put in a shipping-case that ordinarily holds twenty-four 1-lb. $1\frac{7}{8}$ sections, thirty-two sections of the same kind without the bee-spaces or bee-ways. The gain to the honey-producer in shipping-cases is just exactly *one-third*. Or, to put it another way, the honey-producer would save one-fourth the cost of the shipping-cases by the adoption of sections with no bee-ways. Besides this great saving, he will have honey that will run at least one grade higher in the market.

You may ask, "Why does Mr. Morton not use sections without any bee-space whatever?" I do not exactly know, unless he thought that leaving the $\frac{1}{16}$ space in the section on one side would allow the sections to crate together better. However that may be, I think the difficulty is entirely obviated by using the thin veneer stuff between the sections. As I will presently show, by a certain adjustment in the *thickness* of cleats on the separators, we can make the faces of the combs as near the edges of the sections as we like. If we make the cleats full $\frac{1}{4}$ in., then the faces of the combs would be just even with the edge of the sides and tops of the sections; but if we make them $\frac{3}{16}$, or scant that much, then the surface of the comb will retreat from the straight edge across the sides of the sections $\frac{1}{16}$ in. If we make the cleats only $\frac{1}{8}$ in. thick, then the surface of the comb will retreat back $\frac{1}{8}$ in. from a straight line across the edges of the section. This last measurement $\frac{1}{8}$, would be the proper thickness of a cleat on the cleated separators, and, to secure the necessary bee-space or opening at the bottom, the separator itself should be just enough narrower than the inside height of the section to make the opening $\frac{3}{16}$ wide.

(*Conclusion next week.*)

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

S. Livesey.—Many thanks for good wishes and for box of flowers, which, indeed, go to prove the exceptional mildness of the weather at this season. The poetical effusion on "A Swarm of Bs.," sent by your friend, has already appeared in our pages some time ago.

A. Sturgess.—*Subscriptions to* B.B.J.—There need be no difficulty here. The form printed in each week's issue at this time of the year contains all the information you ask for, and can be filled up and returned to the office as directed. On the other hand, if it is preferred, the paper may be ordered at any of Messrs. Smith & Sons Railway Bookstalls.

Editorial, Notices, &c.

USEFUL HINTS.

Weather. — Beyond two or three days at close of the past year—when a sharp frost gave promise of real winter—there has been a continuance of the abnormal mildness which has characterised the weather since October last. For dwellers within the metropolitan radius, fogs and damp, cold days have been more frequent than pleasant, but in districts where sunshine has a chance to assert itself (Wales notably, *ride* page 27), bees carried pollen freely into hives during the first week of the year. From even so distant a place in the north of Scotland as Banffshire, a correspondent writes (on January 12) to say: "So far as the winter has gone we have had here practically no snow, little frost, and a temperature all through quite like spring."

Real winter weather may, indeed, be said to have not yet begun; a fact not to be lost sight of by those who have bees to care for. We must bear in mind the possibility of a long spell of keen frost yet to come, at a time, perhaps, when the risk of serious consequences will be far greater than now, seeing how seldom brood-nests contain tender larvæ in January. A word of warning may therefore be useful where any uncertainty exists as to stores being plentiful, but—let us add—if colonies of bees are known to be well off for food, the less hives are disturbed or interfered with at this season the better.

Bees and the "Sex" Question.—A discussion, more or less interesting to bee-keepers, has recently arisen in the daily Press (through the London *Daily Chronicle*, we believe, in the first instance) in which it is sought to establish some analogy between Professor Schenck's supposed discovery of the "sex" secret and the power bees are known to possess of raising—at will—queens from eggs which in the ordinary course would produce only neuters, or, as they are more commonly known, worker bees. The Editor of the *Chronicle* is, however, reminded—by a correspondent who is also a bee-keeper—of certain editorial shortcomings, regarding the natural history of bees, in these words:—

"You have indeed forgotten your bee-keeping when you say that an egg which would produce a drone bee may at the will of the bees be converted into a 'queen' by being fed with 'queen-jelly.' It is true that eggs and grubs under five days old, that would with ordinary treatment become 'worker' or 'neuter' bees, may become 'queens' by being fed with what bee-keepers call 'royal jelly'; but a drone egg will admit of no change whatsoever."

To this the Editor replies:—

"We have evidently not forgotten our bee-keeping so badly after all. By a slip of memory—there are no hives in Fleet-street—we confused drones and neuters, the latter being, of course, the worker bees. The fact remains, however, that a change of feeding produces a fertile queen out of an egg or grub that would otherwise be sexless; so our parallel was perfect."

We should have been glad to agree with our (non-technical so far as bee-keeping) contemporary, but the word sexless is hardly a proper one to use either for the purpose of proving perfectness of the analogy between what bees can do, and what Professor Schenck *claims* to have almost done, or for accurately describing the worker-bee. Regarding the latter, it is certainly not "sexless." Strictly and correctly speaking, the neuter—or worker-bee—is an undeveloped female; but none the less a female, as is shown by the worker at times taking up the functions of a queen, and laying eggs; which eggs will produce, not worker-bees, but drones so perfect as to be capable of reproducing the race in the ordinary way. This, to our mind, does away with the analogy in the subject discussed, because there is no "sexing" in the case of bees. The latter merely—by feeding the larva on specially rich food—produce *perfect development* of ovaries which already exist in the worker-bee, though in more or less undeveloped condition.

Nor is the Editor of the *Chronicle* alone in failing to grasp the technical points of the case. An Essex correspondent writes us to say he read in the local paper what we suppose to be a reprint of the *Chronicle* article, "and,"

he adds, "Feeling it to be my duty as a bee-keeper to correct the error as to queens being reared from drone eggs being spread broadcast, I wrote a reply which was not only so misprinted in type as to be stupid reading, but I now send the editor's footnote to my letter, which speaks for itself." He says:—"Evidently our correspondent has not kept bees, otherwise he would know that bees have many eccentric ways with them, and it was one of these with which we dealt in our last issue. Bees, again have 'nurses' who sometimes change the food and produce more of the sex that happens to be so required. Our statement last week has, we find, been confirmed by several bee-keepers living in the district. Supposing that Professor Schenk's theory be sound, in practice it will not be so convenient as might be hoped, for the sex of the first bee determines that of all its successors."

We have in some measure dealt with the (to our mind) weak points of the case presented by the *Chronicle*, but for the local editorial footnote quoted above we prefer that it should speak for itself.

PROPOSED B.K.A. FOR DEVON AND EXETER.

We are requested to state that a meeting of those interested in the formation of a Devon and Exeter Bee-keepers' Association will be held in the Guildhall, Exeter (kindly lent by the Mayor), on Friday, January 28, 1898, at 3 30 p.m., when the attendance of bee-keepers and all who take any interest in the pursuit is earnestly invited.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

THE "NO-BEE-WAY" SECTION.

[3136.] The new year has opened mild, though dull and foggy as November. On a few days the sun has shone forth bright and warm, and bees have been on the wing in thousands. The old-style bee-keeper, when seeing his bees lively on a winter's day, expected a change to colder weather, generally saying "We shall get a pinch for this;" but the "pinches" have not come this season so far. The mildness of the weather has brought all growing things forward. The white arabis shows a few heads of bloom, and the wall-flowers are bursting into blossom in sheltered spots; while the bees begin to visit the watering-places, showing that in some instances breeding has started.

All these things, though abnormally early, tend to direct our thoughts forward, and rouse us up to action in preparing for the coming season. There are many little jobs that can be done in the long winter evenings much better than when the rush of work is on in field, garden, and apiary. Repairs of leaky roofs (the late rains must surely have tried the roofs) constructed of inferior wood, knotty or weather-cracked board; and when wraps or cushions are saturated, one has the "pointer" to a job that requires immediate attention, not only for the welfare of the colony, but also for the preservation of the hive itself. The best covering for such a roof is a sheet of thin zinc, large enough to turn and nail under the eaves; or failing zinc, which some may consider too expensive, a coat of thick paint laid on, and then, while the paint is wet, a piece of strong unbleached calico stretched tightly over the painted surface, and tacked under the eaves. This, with another good coat of paint on the top, will make a roof waterproof for a few years; but constant exposure to all kinds of weather renders the cover liable to cracks and damage if knocked with or against anything. Zinc, on the other hand, will last a lifetime; and when painted a light stone colour, and with plenty of ventilation, are not much warmer in the summer than wood covers.

I notice in last week's B.J. that you quote an editorial article from *Gleanings* on the new "no-bee-way" section. Our American cousins seem to have taken up with the idea pretty strongly. If I remember aright, the four-bee-way section was to give us all the advantages now hoped for and looked for in the no-bee-way section, but the four-bee-way section on trial has not proved to be superior in any way over the two-bee-way or ordinary section. I gave both kinds extended trial in my own apiary by the 1,000 of each sort, worked exactly on the same lines, and failed to find any difference as to being better filled, or worked out to the edge of the wood, than the two-bee-way. In fact, I may say that, in selecting my sections for exhibiting at shows during the years I used the four-bee-way sections, that they were always in a minority in my winning exhibits. This, I think, was a fair test.

This is not written, however, in opposition to the new style or "no-bee-way" section, as I intend giving the latter a fair trial. My

motto has ever been *vorwarts*, and though like the Athenians of old, I may be always wanting some new thing, yet—to keep abreast of the times and in the front rank of one's calling—we must give trial to every new idea that appears worth it, and then adopt the best points; though I cannot see at present that the new style will be much advance on the two-bee-way, as the cleated separator will not give the bees freer access to the super than at present. The only difference will be that the bee-way at present left on the sides of the section will be taken away on the divider and leave the comb of honey in a diminished section, with the result that the section will appear fuller, but will not contain any more honey: the real test as to fulness of a section is the balance or scales of the grocer or retailer.

I caution bee-keepers that when they order sections of the new style that they give orders for the new style divider also. No doubt our inventive manufacturers will be ready with new style dividers before the merry month of May comes to cheer us. I think a small addition to the slotted tin separators or dividers will be an advance on the "Root" cleated fences. I am in correspondence with regard to the matter, and hope ere another fortnight to see the job accomplished, when full details, if satisfactory, shall be given.—W. WOODLEY, *Beedon, Newbury.*

APICULTURAL NOTES.

SPLIT-SECTIONS.

[3137.] Judging from the correspondence which has recently appeared in the B.B.J., it would appear that the split-section brought forward by Mr. Sladen at the Conversazione in October last is by no means a new idea. It is, I think, equally clear that these sections have not been used to any great extent, or we should have seen or heard more of them. I may be wrong, but my humble opinion is that the use of split-sections will never become general. I certainly fail to see where and in what way they possess a single advantage over the ordinary section; that is, the one with simply a split top-bar, or the grooved section, for use where it is desirable to *fill* the section with foundation. My own preference is to have the foundation hanging clear of the sides as well as the bottom of the section. On the other hand, it is easy to imagine many objections to its use, especially where honey-producing is carried on on a large scale. It may be contended that there is a saving of time in fixing in the foundation. Well, perhaps this is so. But fixing foundation in ordinary sections is by no means a big job. I have just been timing myself, and find I can prepare *ten* sections in one minute, that is, fold them and fix in the foundation. I could not, of course, fit up that number of grooved sections with *full* sheet of foundation in the time named, and am well aware that the split-section is especially intended for the use of full sheets; but even there I fail to see its efficiency. It is claimed that by pressing the two sides of the sections together the foundation will hold them in position, and thus form a perfect section. No doubt it would, provided the section is, after such treatment, carefully placed on one side and not subjected to any further interference. After several attempts I have never yet succeeded in sticking together two pieces of wood with *cold* beeswax, and thus form a joint that would resist the slightest amount of force. It appears to me that in using split-sections it would be absolutely necessary—after filling up or preparing them—to put the sections at once into a rack, where they would be kept square and true in shape, and have to be nothing short of a perfect fit. In other words, there must be no room for either longitudinal or latitudinal movement. If this is not done the section might get out of shape and the foundation drop down. I do not know of a single manipulation in connection with modern apiculture that requires to be done in a more expeditious manner than that of removing full sections of comb honey from the hive and replacing them with empty ones. If I happen to have several hundred to take off and the conditions are favourable I can get through the job faster than an assistant can pick up the sections, put them in crates, and carry them away. But if split-sections were used, I am afraid the process would be very much impeded in consequence of having to handle the empty sections singly and carefully to prevent the foundation dropping out. I should imagine it would never do to put a lot of them loosely into a box, to be taken from hive to hive in the way we do with the ordinary section, or we might, just at a critical moment, find it necessary to spot and refix foundation, to say nothing about refixing one's temper, which would, under such circumstances, be very likely to "give way" like the foundation.

When the honey season is on the wane, and yet a little more surplus-room becomes necessary, it is advisable to put on only as many sections as we can reasonably hope to get filled. Sometimes the rack is already three parts filled, at another time half filled, and so on, according to circumstances; and it seems to me that in working split-sections we should require a good many different lengths of wedges wherewith to firmly wedge up whatever number of sections we might be using, to prevent foundation dropping out. But I think the most objectionable feature in these split-sections is this: When they are placed in position the joint of the section comes at the bottom, and in attempting to lift out a full section, this same joint will often give way before the propolis, with which the bottom of the section is firmly stuck to the cross-bars of the section-rack. Now, when this happens, the result is a spoilt section of honey—at least

it would be unfit for travelling or storing—and for that reason I always use the sections in such a manner that the *joint comes at top.* Even with that precaution it is nothing very unusual to break a section, especially towards the end of the season, when propolis is used in larger quantities than is, from the bee-keeper's point of view, either necessary or desirable.—ALLEN SHARP, *Brampton, Huntingdon.*

"A SWARM IN JULY NOT WORTH A FLY." (?)

MY EXPERIENCE OF THE "WELLS SYSTEM."

[3138.] Among bee-keepers of the old school the adage, "A swarm in July not worth a fly," was, I suppose, regarded as strictly and literally correct. But modern methods enable us to turn July swarms to good account the same season, if they come off when conditions are favourable. In any case, there is a young queen, and if she turns out well a good stock is ensured for the following year. My experience in 1897 with a July swarm was as follows:—I have a "Wells" hive, and, for the first time in four years' working of it, this stock swarmed from both compartments and joined together of their own accord. I did not weigh the double lot, but there would be from 9 lb. to 10 lb. of bees. This was on July 9, and the swarm was hived same evening on ten frames, fitted with 2 in. starters of comb-foundation. Five days later I put on the hive a rack of twenty-one 1-lb. sections. Ten days, *i.e.*, on July 24, the rack was removed with all sections filled with splendid honey. I then put on a box of shallow-combs, and had another 10 lb. of honey stored in these, besides an abundance of honey stored in brood-combs below, to carry them through the winter without feeding.

It would take a lot of argument to prove that July swarm "not worth a fly," especially when I inform you that, with twelve of the sections filled by that swarm, I took second prizes at Shrewsbury, first at Hereford, and second at Ludlow, besides selling them after for twelve shillings. I have worked two hives on the "Wells system" during the last four years, and been most successful with it. With me it takes three single queen stocks of bees to give an equal return to one "Wells" hive, and of my double-queened lots, the one that does best with me is a hive with an entrance at each end, and the bees flying in opposite directions. They thus work the same as two separate stocks. In the other "Wells" hive both entrances are cut in the front side, although there is a division-board between the two doorways. This fault, as I consider it, has caused me a lot of trouble. Sometimes I find all the bees in one end, or one lot queenless. Indeed, I seldom have the bees in both compartments of equal strength. I see other bee-keepers have had the same experience in this direction as myself, but I believe the true remedy for the mischief is to have an entrance in each end, and facing in opposite directions. Another thing I find is, the strongest lot of bees, and the one where the bees fly least in winter, is where the entrance has what is generally regarded as the worst aspect. I never take trouble to examine whether the holes in centre division-board are closed or not, as I found out that the progeny of two queens will work in a super common to both, and become as one stock, long before Mr. Wells made his system known. I do, however, not recommend Mr. Wells's system to beginners. It is more suited to the work of what might be called a seventh-standard bee-keeper. I shall build myself, however, some more hives suitable for the double-queen system, as I find they yield most honey with me.

Wishing a happy and successful New Year to all readers.—T. PRITCHARD, *Salop, January* 10, 1898.

ROYAL SHOW, 1898.

PRIZES AND ENTRANCE FEES.

[3139.] Referring to the prize list (which appears in this week's BEE JOURNAL) for honey, hives, &c., offered for competition at the Royal Show of 1898, I notice there is a great reduction in the value of the money prizes, there being no less than nine classes in which the first prize only amounts to 10s., and two classes with first prizes of 7s. 6d. There is no mention of entry fees, but I should think these will be reduced, as a 2s. 6d. entry fee for a 10s. first prize is rather a high sum to pay for such a chance as one usually gets at the "Royal" Show. I would say 1s. entry fee for prizes of such value would be ample. No doubt I shall be accused of "grinding my own axe," but I should like other exhibitors besides myself to express their views on the subject before it is too late.—H. W. SEYMOUR, *Henley-on-Thames, January* 15, 1898.

TWO QUEENS IN ONE HIVE.

A STRANGE CASE.

[3140.] In November, 1896, a friend of mine gave a lecture on bees, and for the purpose of illustrating his subject, took with him, besides other things, an observatory hive, containing one frame from his Ligurian stock. After the lecture the frame was returned to the hive from whence it had been removed. All last summer this stock was one of his best, being perfectly crammed with bees, both in supers and hive body. In October last, this queen again went through the same ordeal as before, *i.e.*, was taken to a lecture. Next day, on opening the hive and spreading the combs preparatory to returning the frame, my friend was surprised to catch a glimpse of a queen running round the end of a frame.

(*Continued on page* 26.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

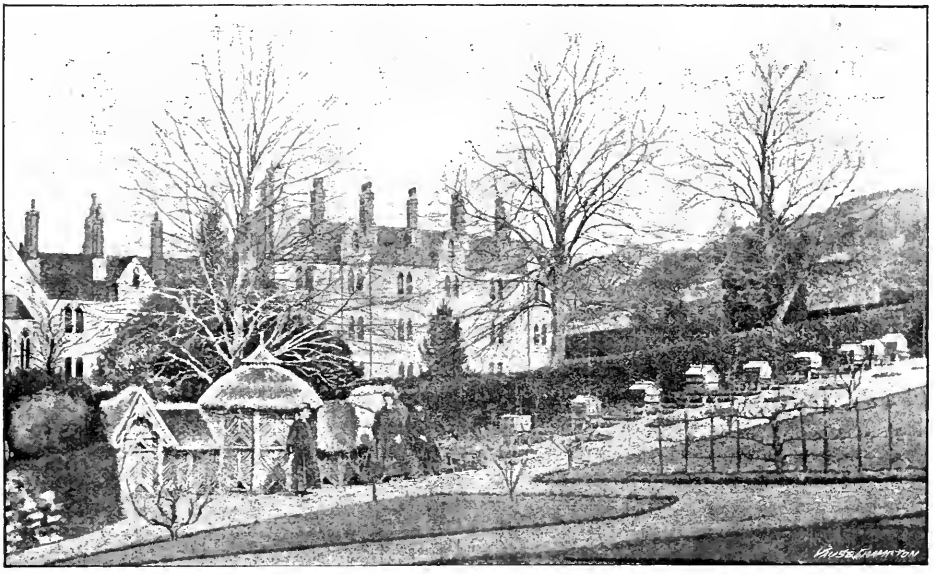
As our esteemed editors have been so good as to offer to insert a notice of our little apiary in the B.B.J., I send a few words to accompany the picture.

St. Beuno's College is situated in Flintshire, about three miles from St. Asaph, and is devoted to the theological training and preparation for the priesthood of some fifty students of the Catholic Religious Order of Jesuits. The apiary, which at present numbers thirteen hives, is looked after by one or two of the divinity students, who care to devote their spare time to the study and management of bees. Since no one, as a rule, is able to lend himself to that occupation for more than three years, and since each one who takes it up is usually a beginner, it follows that St. Beuno's College is not a training-ground for experts in bee-keeping. Some fifteen months ago the present writer had had no experience of the subject, but, after a short apprenticeship under his predecessor, he was left in chief management at the end of June last. His knowledge, such as it is, is mainly due to careful reading of the "Guide-Book" and *Record*, but he cannot yet boast of having got out of the blundering stage of his existence as a bee-keeper.

Our hives, I think, were procured in 1884, before the days of uniformity, and they all hold frames which are about two inches shorter than the standard size. The thatched house to the left of one facing the hives was originally built for skeps, and the triangular flight-holes are visible in the picture. This house, however, being quite rotten, was lately knocked down to make room for a shed less picturesque but more commodious. Since the present picture was taken, some sycamores have grown up in front of the hives to a sufficient height to afford ample shade during the summer months, while the lime trees behind unite with the sycamores in making the covering dense and cool enough to lessen the tendency to swarm. The swarms, when they do occur, are often a source of great trouble, as they are fond of making for the tops of the lime trees, and sometimes even they settle in the chimneys of the house. A former bee-keeper writes: "We once got a bee swarm out of the sacristy chimney, where it had lodged, by firing a gun up it." Last year a swarm settled in what seemed, at first sight, an unassailable position in the thin upper branches of a lime tree, far away from the trunk. There was no place near the cluster against which to lean the ladder, so it had to be fixed up with ropes, somewhat after the manner of a flag-staff. After much manœuvring the swarm was safely hived, and it gathered some 30 lb. of surplus honey before July was out.

A few years ago, when Carniolans were in possession, the part of the garden near the hives seems to have been a perfect "swarmery" in hot weather.

Our neighbourhood is well supplied with bee pasturage, especially white clover, of which a large area, growing on grazing land, is left uncut. Hence there is sometimes a fair



APIARY AT ST. BEUNO'S COLLEGE, ST. ASAPH, N. WALES.

average yield of honey. In 1889 it was 109 lb. per hive, when the bees were looked after by a predecessor of mine, known to former readers of your journals as "S. J." This last year the average was about 94 lb.

Our honey is produced mainly for home consumption, for the study of divinity does not, apparently, take away the sweet tooth of most of the members of our household. Why should it?—J. K., *St. Beuno's College.*

CORRESPONDENCE.

(*Continued from page* 24.)

He made search and got her on the comb next to the one she ran round. She was a full-sized, beautiful Ligurian, larger, if anything, than the old one; in fact, her appearance would have led one to say she had certainly been mated. He, however, removed her to make sure of the safety of the stock, and as there was a large knot of bees left in the observatory he put her down amongst them, meantime fixing together and wrapping up two pieces of comb containing honey, leaving only a small entrance into which they were guided. This small hive (?) was then placed in a corner of the hot-house for some time, but, although the bees usually returned to their place, they gradually got lost. My friend's custom is to clip the queen's wing after she has commenced to lay, and this fact was of great service in this case in deciding the one from the other. The puzzle is, why this queen was raised and allowed to live, while the hive possessed such a good one, and one only about fifteen months old when the discovery was made? My friend has kept bees for many years, but never noticed the same happen before. If you can give us any suggestions, or if any reader can record a similar case, we shall be pleased to hear it.—W. R. L., *Liberton, N.B.*

[Many instances have been recorded where two laying queens have continued to live and pursue their ordinary avocations in one hive for several months, if not for longer periods. The temporary removal of queens—for use in observatory hives at shows, or for such purposes as mentioned above—affords unusual opportunities to the bees for raising queen-cells while the "mother-bee" is absent; and as there may be similar instances in the experience of readers we shall be very pleased to publish any particulars regarding such if forwarded.—EDS.]

HORNETS.

[3141.] I have read with interest W. Loveday's remarks *re* "Hornets," on page 12 of the B.B.J., as to his thinking that "these insects had all but ceased to exist in this country." It may therefore interest him to know that, in so far as hornets becoming non-existent, I destroyed fourteen nests of them in 1896, and twelve in 1897. I have, however, never seen them interfere with the bees, but I have seen them catch wasps while on the wing and snip them in halves. Wasps are scarce here, but hornets very plentiful, and I find them very destructive to fruit; also to dahlias.—G. A. KING, *Suffolk, January* 17.

QUEEN WASPS IN JANUARY.

[3142.] On the 9th inst. I observed a queen wasp on the wing, as busy searching for food on a laurel hedge as we see them in May usually. I also saw a queen humble-bee busy searching for honey on a strawberry arbutus tree on December 17. Have we any record of such early or late visits?—J. H., *Redditch, January* 15.

Queries and Replies.

[1894.] *Wide versus Standard Spacing in Supers.*—Will you kindly inform me which method is thought to give the greater yield of honey. If we consider two supers full of bees, but one having only eight frames, the other ten frames, then, *in the same cubical capacity* we have, in the ten-frame super, 25 per cent. more bees, consequently more heat, and 25 per cent. more evaporating surface. These are two important factors, especially when the first super is put on in early summer, but there is the drawback of much more surface to seal over.—*Fredk. P. Smith, Exeter, January* 14.

REPLY.—Without entering into the scientific aspect of the question, or ignoring the "two important factors" referred to by our correspondent, it is generally believed (and we share the belief) that more weight of honey is secured in a given time and space by using wide-spaced frames. We will, however, be glad to have the view of readers who have had practical experience of both wide and narrow spacing in supers.

[1895.] *Choosing Appliances.*—I thank you for your replies to my queries on page 18 of last week's B.B.J., but as to No. 3, it was not so much the question of gearing, which can be applied to either the "Guinea," or "Raynor," as to the convenience of the two forms of baskets, for combs and sections. The "Raynor" claims the advantage of being able to reverse combs without removing them, and from the reply I presume you consider this a point worth having, and also that it is handiest for sections also—is this so? 2. Might I also ask if you advise No. 1 or No. 2 of the "Raynor"? No. 1 measures inside 23 in. by 18 in. diameter; outside, 27 in. by 18½ in. diameter; No. 2 being 25 in. by 22½ in. inside diameter; outside, 28½ in. by 23 in. diameter. Not having seen an extractor, I do not quite

know to what parts these measurements refer, but they are taken from Meadows' list for 1897 (No. 18).—G. M. S., *Keswick.*

Reply.—1. No, we cannot say the "Raynor" is "handiest for sections," but, bearing in mind how seldom there is any need to extract from sections, it is only necessary to know that the "Raynor" answers for that purpose. The "Guinea" extractor is certainly preferable if sections only were the main point, but these are of very minor importance in considering the general efficiency of an extractor. 2. This is simply a question of the amount of work to be done. If working up to a dozen or so of hives No. 1 is quite large enough, but for a large apiary No. 2 is best. The measurements given refer to the size of the cylinder or body of the machine.

[1896.] *Sending Dead Bees by Post—Supposed Loss of Queen.*—I found the enclosed bee on the entrance board of one of the skeps which I brought home a distance of forty-two miles last week. Noticing that it is much longer than the others that the bees carry out during the fine weather to-day, I fear it is a queen, and that possibly she died owing to the shaking in the dog-cart. Shall be obliged if you will tell me through the medium of B.B.J. :—1. If it is a queen? and 2. What is the best course for me to adopt with the skep if she is the dead queen?—R. E. D, *Llandrindod, Radnor, January* 12.

Reply.—The dead bee reached us smashed beyond recognition in post. We managed to pick out part of a leg, of which enough was left to enable us to venture an opinion that the remains are those of a worker bee, but we cannot say for certain. It is a pity correspondents will not take the trouble to secure dead bees or other insects from damage in post. Now that 4 oz. in weight goes for a penny there need be no lack of protection. 2. The only course under the circumstances is to note if the bees carry in pollen when other hives are so engaged. If they do so, all will be right.

Echoes from the Hives.

Penryn, January 10, 1898.—I see in one or two of the last B.B.J.s some bee-keepers speaking of their bees flying. I have noticed that mine have not only been flying more like as if it were April, but that some of them have come home heavily laden with pollen—gathered, I should fancy, by the colour, from the snowdrop—on December 18. It was so again on January 7, and to-day (10th) I notice pollen being carried into several of my hives. Will you kindly give me your opinion on the matter. I was sorely tempted to open a hive and move back a comb or two in order to see if breeding was going on, but I did not like to run the risk, although it was much like a May day on the 7th of this month.—Amateur.

[Pollen carrying is certainly abnormal in January, as is the weather described; but on no account should hives be opened for the purpose of seeing if breeding is going on.—Eds.]

Newport, Mon., January 8.—The bees were flying freely from my hives on the 6th and 7th inst. I found several on the ground chilled, and among them one with pollen on its legs. After having been warmed by the fire a few minutes they were able to fly back to the hives. I then observed several bees laden with pollen enter the hives. On looking round some hedges near here to-day I found nut catkins fully expanded. This was probably where they obtained the pollen.

THE "NEW STYLE" SECTION.

CLEATED SEPARATORS AND NO BEE-WAYS.

(*Concluded from page* 20.)

Now, about this time I imagine some of you saying, "Look here, E. R. R, are you proposing to foist upon the bee-keeping world an entirely new section, thus compelling us to discard our supply of surplus fixtures in the way of T supers and section-holders?" I answer, "Not at all." If you will take one of your 1⅞-in. sections and plane off the bee-way as I have described, you can use them in your hive-racks just as you did your old ones. The T super itself is nicely adapted to such a section, so also is the section-holder arrangement. The cleated separator would take up the spaces formerly occupied by the bee-ways themselves, so your section-racks and fixtures will come out just the same as before.

Another question may arise: "Do you propose to discard 1⅞ sections in your manufacture and substitute in their place the no bee-way section?" Not at all. That is to say, we will keep right on making the old-style sections as above, because, no matter how good a thing may be—no matter how much saving it may effect—it would take time, under the most favourable circumstances, to make the change. But all of our readers who appreciate the merits of these sections, and want to use them another season, can be accommodated. Space will be given in our forthcoming catalogue to describe the sections and other changes. Our customers can then have the option. But, of course, the old-style section will be made as before, and all will be supplied as ordered.

No doubt some will suggest that the cleated separator will cost more. Yes, a little more; but in the hive combination it would cost no more, for the reason that, where we make a little increase in one way we make a saving in another. The new-style separator we hope to make of lumber that we ordinarily

burn up, instead of cutting up good timber as we now do for the ordinary slotted separator.

I have no engraving yet showing the cleated separator that I have been talking about, but have something pretty nearly like it. And this leads me to the idea that the cleated separator is not a new idea by any means. If you will turn to *Gleanings* for November 1, 1888, you will find what I have been describing is illustrated and described by Mr. Oliver Foster, and was illustrated at the time. Here are some of the good features enumerated by Mr. Foster :—

1. It furnishes free communication from side to side.

2. It will not bend or wrinkle as tin does, nor warp and split as ordinary wooden ones do.

3. It serves as a support for the sections (where the bee-space is used), doing away with the necessity for T rests or other supports under or between the sections (except at ends of case).

4. The lines of propolis resulting from the contact of these supports are thus avoided.

5. No trouble with sections catching on the edge of tins, nor with getting in the last sections.

6. The outside rows of sections can be easily turned to the central part of the case for completion.

7. The cost, I think, will be less than that of any perforated separator yet offered.

You will notice, incidentally, that the separator is made up of three pieces. Mr. Morton's are made much in the same way, only his cleats are glued on.

The bees can go back and forth through such separators. This one feature alone is worth all the separator costs, because it permits of the combs being filled out fuller, owing to the fact that each individual section is not shut up completely by itself.

At a later time, in *Gleanings* for March 15, 1895, Mr. B. Taylor illustrated and described a similar separator. Mr. Taylor, in speaking of the advantage of such separator, says :—

This gives perfect sections that weigh a scant pound each when filled. The honey on both sides of the section comes within $\frac{1}{8}$ in. of the edge of the section, and is never broken in removing the separator, and the surfaces are $\frac{1}{4}$ in. apart in crating. In crating sections filled between common flat separators, the surfaces of the combs are $\frac{1}{2}$ in. apart, and require a larger crate for the same number of pounds.

Mr. Miles Morton has been using his arrangement for eight or nine years past, and Mr. Danzenbaker has been using something similar for about two years.

Now, then, brethren, the subject is open for discussion. I suppose there will be some criticism and some objections to such a section. Let us have them all now. I wish especially we might hear from those who have been using an arrangement similar to this, as to how they like it. I have not attempted to give all the points *for* the section.—*Gleanings* (*American*).

BEE LECTURES AND VILLAGE CLUBS.

On November 11 and 25 last, two lectures on "Bees and Bee-keeping" were delivered by Mr. St. John, the organising secretary of the Warwickshire County Council, at Studley, Warwickshire. There were good attendances at each lecture, which were of a most interesting and instructive character. The subjects were beautifully illustrated with the aid of a magic-lantern and slides, under the able management of Mr. Stocks, schoolmaster. The first lecture dealt more particularly on the life, history, and anatomy of bees, and the second lecture referred to and illustrated the old-fashioned skeps, and swarming and hiving, and the present up-to-date modern principles with bar-framed hives, comb foundation, and section honey of the finest quality, well filled without pop-holes or loss of space, by Mr. J. Hiam. At the close the Rev. — Saywell, chairman, made a few appropriate remarks, and hoped it would be the means of stimulating the subject of bee-keeping. Mr. James Hiam, Astwood Bank, in proposing a very hearty vote of thanks to Mr. St. John and Mr. Stocks, said that, although he had been a bee-keeper for close on fifty years, there was always something to be learnt, and although he had attended very many lectures in various parts of the country, at Royal Agricultural Shows, horticultural shows, and various indoor lectures, he could safely say he had never enjoyed lectures so much as those given by Mr. St. John.

As a result a bee-club was started on Thursday last, when about a dozen entered, and others are expected to join in the locality, and much useful information may be expected from some old, successful bee-keepers.—(*Communicated.*)

SEASONABLE QUESTIONS.

ANSWERED BY G. M. DOOLITTLE.

Shallow Supers and Killing Bees.—Preventing Swarming.

Question.—I have as many colonies of bees as I care to keep. I produce comb-honey only, and as there is no call for bees in this locality I think of trying the following plan :—I will hive the swarms in shallow extracting-supers, so as to compel the bees to put most of the honey in the sections ; then in the fall I propose to kill the bees in these shallow supers, and render the brood-combs into wax. What do you think of the above plan ? Will it be necessary to put queen-excluders over these shallow hives to keep the queen from

going into the sections? Please answer in next *Gleanings*, if possible, as I want to prepare for next season during this winter.

Answer.—Before proceeding to the general subject, I wish to say that the desire of our questioner to prepare for the coming honey season during the winter months is a commendable one. If more of our bee-keepers and novices in apiculture were built on the same plan there would be fewer failures with those entering our pursuit, more first-class *white* honey obtained, instead of so much dark, and supply-dealers would be kept busy all the year round, instead of being rushed during May and June, so as to be obliged to run night and day, and then lie partially or wholly idle the rest of the year. I wonder how many apiarists have noted that the call for No. 1 and fancy white honey is *always good*, with the usual "*short supply*" nearly always quoted for the same, while dark and inferior honey is slow of sale, often accumulating on the market till it becomes a drug, or breaks down the market entirely. And I wonder if it has ever entered the heads of bee-keepers that the delay of preparing for the season till the season was upon them was one of the prime reasons for dark honey being put upon the market instead of fancy white. Thus year by year bee-keepers are losing money and ruining the markets by being always behind in preparing for the season, and most of them seem to be ignorant regarding the true state of affairs. They are some like the old woman whose husband was ill. She sent for the doctor, who came, and, after a careful diagnosis of the case, said to the old lady, "I will send him some medicine, which must be taken in a recumbent posture." After he had gone the old woman sat down, greatly puzzled. "A recumbent posture—a recumbent posture!" she kept repeating; "I haven't got one." At last she thought, "I will go and see if old Mrs. Smith has got one to lend me." Accordingly she went and said to her neighbour, "Have you a recumbent posture to lend me to put some medicine in?" Mrs. Smith, who was as ignorant as her friend (without being willing to admit it), replied, "I had one, but to tell the truth I have lost it." Rub yourselves awake a little, brother bee-keepers, and see if you have not been in a "recumbent posture" quite long enough along the line of late preparation for the honey season. But to return to the main point.

Yes, it will be necessary to use a queen-excluder in hiving a good or large swarm in a shallow super, as our questioner proposes, especially if he uses sections filled with foundation, and hives the swarms on empty frames, as what he says would indicate he expects to do. But if the plan is carried out just as it is outlined, why "render the brood-combs into wax?" It would seem like folly to make the bees build those shallow frames full of comb each year, or fill them with foundation, for the fun of making them into wax year after year. I often think bee-keepers are as ignorant regarding the value of good straight combs as they are regarding being prepared for the season. Such combs are as good as money in the bank, and I would allow no one to melt up the surplus combs I have, even if he would give me twice the number of square feet they contain in foundation. What is there to hinder hiving swarms the next year on those combs from which the bees were killed, and thus save the cost of honey used in producing the material from which they were built, and all the labour of the bees besides? No, no! don't melt up good combs for the fun of it, or for the sake of making the bees build more. But why allow those colonies which are to produce the swarms to be hived in those shallow supers, and then killed, to swarm at all? Don't know how to work for comb-honey and not have swarms? Well, then I will tell you how I worked my out-apiary last year without swarms, and had good results as to comb-honey.

First, I made as many cages for queens as I wished by wrapping wire cloth around a stick that was $\frac{1}{2}$ in. by $\frac{3}{4}$ in. square. The pieces of wire cloth were cut 4 in. long. Having the wire cloth formed into cages 4 in. by $\frac{3}{4}$ in. by $\frac{1}{2}$ in., inside measure, I sawed off as many pieces, $\frac{1}{2}$ in. long, from the stick I wrapped the wire cloth around, as I had cages when each piece was slipped into one end of each cage and tacked fast. Then other pieces were sawed off, for removable stoppers, to be used in the other end of the cages, when caging the queens. Then as many more pieces were sawed off, which were 2 in. long. These last had a $\frac{3}{8}$ in. hole bored through them lengthwise, which hole is to be filled with "queen-candy" when wanted for use.

We will now suppose the swarming season has arrived, which is generally from a week to ten days before our honey harvest comes. I now go to each hive which is strong enough in bees to swarm or to work in supers; catch the queen, put her in one of the cages, using the short stopper to fasten her in. I now look over the combs till I find one which has a vacant space above the bottom bar to the frame, sufficiently large to admit the cage so it can lie on top of the bottom bar to the frame. This vacant place should be about one-fourth way back from the end of the frame nearest the entrance of the hive. This, supposing that your frames run endwise to the entrance. If I find no such vacant place I make the same by cutting away the comb. Having the queens thus caged, I wait nine, ten, or eleven days, according to the weather, when I proceed to cut off *all* queen cells which may have been started, shaking the bees off each comb in front of the entrance, so that I may be sure not to miss any. In replacing the combs in the hive I remove the stopper from the cage and replace it with the long one which was filled with candy that morning, so the candy will be fresh. It will take the bees from two to three days to

eat the candy out of these long stoppers, which, when done, liberates the queen. While the bees have not been queenless at all, they have been without a laying queen from twelve to fourteen days, which I find is sufficient time to stop all inclination to swarm, unless the honey flow holds out more than four weeks, which is an unusual thing. During the time the queen has been caged the most of the honey coming in has been stored in the brood-combs, unless the bees had commenced in the sections earlier, in which case they keep right along the same as though nothing had happened. In any event, thus caging the queen seems to change all desire for swarming to that of storing, as soon as the queen commences to lay again, when the honey will go into the sections as if by magic. Why I said nine, ten, or eleven days, according to weather, was that it is all right to cut the cells on either of these days, so we need not go out on severe stormy days, unless it storms on all three. I generally cut the cells on the tenth day, where I can have my choice of days. Then why place the cage just where I have said? I formerly placed it anywhere in the hive where the bees could have access to it, so as to care for the queen; but last season I happened to place the cage on the bottom bars of the frames in several hives, as given above, and I found that these colonies not only worked better in the sections, but did not seem to consider themselves queenless to an extent sufficient so that any of them started a single queen cell.

Of course, this matter will need more time than one season to establish the fact that bees will not start queen cells when queens are thus caged, but I thought it would do no harm to tell just how it worked last season; then if it should so continue each season, and in all localities, we could secure better results, with no shaking off the bees to find and cut cells; but in any event I much prefer this plan to taking away the queen entirely, as practised by Mr. Elwood and others.

And now, Mr. Querist, perhaps you had better try your plan on a few colonies, and the one I have outlined here with a few more, and run the rest of the apiary, for next year, the same as you have done in the past, when you will be able to tell which is best suited to your wants; and after deciding, then work the whole in that way until you find something better. Don't, in any case, risk the *whole* apiary on some untried venture, unless you want to feel like kicking yourself for losing a whole season by something which may fail in your hands.—*Gleanings* (American).

ERRATA.—Referring to the letter signed T. Ermite (3131), the last line of left-hand column on page 13 should read, "What part in the proposed tables will naphthaline *bear* to prove," &c. The word "appears," at top of second column, is a printer's error, and makes the sentence unintelligible.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

NOVICE (Tiverton).—*Honey Samples.*—You make it difficult to judge properly of sample by sending it in a bottle bearing signs of having previously held scent or perfumed liquid of some kind. There is, we think, in sample a good portion of sugar syrup, rest being honey.

H. PETERS (Birmingham).—*Winter Reading for Bee-keepers.*—You will find this subject already dealt with in a special series of articles beginning on page 2 of vol. xix., and continued till June, 1891. We are sorry to say some numbers of this volume are now out of print, so we cannot supply them, but as the matter of the re-issue of these series of papers—revised, extended, and brought up-to-date—has been several times suggested, we may reprint them if assured of any general desire for their republication.

J. MARSHALL (Beverley).—*Temperature for Opening Hives in Winter.*—The slight disturbance caused by giving a cake of candy cannot be correctly called opening a hive in the sense of doing damage to either bees or brood by a too low temperature. If, therefore, the stock is in immediate want of food, and no combs of sealed stores are on hand, we should give soft candy at once. So far, however, as your query, "At what temperature is it safe to open a hive, having regard to the risk of injury to unsealed brood, when lifting frames for inspection in cold weather?" the young larvæ should not be exposed at a lower temperature than 55 or 60 deg. Fah., and not so low as that if the comb of brood is exposed to cold wind for more than a minute or so. Ordinary inspection of hive interiors should never take place when the thermometer is below 65 deg., unless in cases of urgent necessity.

SHOW MAN (Warwickshire).—*Entry Fees at Royal Show.*—You will see the matter has been referred to by Mr. W. H. Seymour on page 24 of this issue. We regret to say there is not much chance of a reduction of entrance-fees in the honey classes. The charges have been already published in the Royal Agricultural Society's official prize sheet, and we fear this makes any proposed alteration now inadmissible. We are sorry you do not write in our correspondence column on the subject. Nor has the condition been fulfilled requiring name and address to be enclosed when using a *nom de plume*, not necessarily for publication, but as a guarantee of good faith.

Editorial, Notices, &c.

THE "NEW STYLE" SECTION.

In our respective issues dated 13 and 20 of the present month, we reproduced an article from *Gleanings*, in which the editor deals very fully with what he terms the new style, or "no bee-way section," now attracting the attention of American bee-keepers, and receiving much attention in bee-journals across the Atlantic. Writing, as he does, admittedly from the manufacturers' point of view, Mr. Root gives practical and more or less valid reasons for the arguments put forth; and we were very pleased to note his announcement on page 20, wherein he judiciously says:—"We will keep right on making the old style sections as before, because—no matter how good a thing may be, no matter how much saving it may effect—it would take time, under the most favourable circumstances, to make the change. But all of our readers who appreciate the merits of these new sections, and want to use them another season, can be accommodated." Mr. Root then adds: "Space will be given in our forthcoming catalogue to describe the sections and other changes. Our customers will then have the option; but, of course, the old style section will be made as before, and supplied as ordered."

The above announcement, being merely tentative, is so far satisfactory, and we trust that bee-appliance dealers, and readers alike, will regard it as such, so that the "new style" section may receive fair and full trial, without either being "boomed" or starting a craze which may wear out after more or less of disappointing experience.

By way of justifying this early word of advice to "go slow" in this matter and the reasonableness of our caution, it is well to mention the candid and characteristic admission on page 28—which frees us from the duty of reminding readers that they are not now being presented with a novelty—where Mr. Root says: "The cleated separator is not a new idea by any means. If you will turn to *Gleanings* for November 1, 1888, you will find what I have been describing is illustrated and described by Mr. Oliver Foster," &c. Then—after mentioning others who have used modifications of the same arrangement for varying periods—the article concludes by inviting free criticism and discussion on the merits and demerits of the new section.

This is just the point we desire to lay stress upon. Let us have free discussion along with fair and full trial of a section with no fixed opening or bee-way cut in the wood of the section itself. This done, let us ascertain what width of section will best ensure perfectly sealed cells—on all four sides, if possible—while offering to buyers, as nearly as may be, a solid and full 1-lb. section of comb-honey. If anything like an approach to this ideal be reached by means of the no-bee-way section, its general adoption will soon follow.

For ourselves—and in accepting the invitation to discuss the *pros* and *cons* at this stage—we are led to go back a few years, and mention a case in point which goes to prove beyond question that a narrow section will, as a rule, be better filled and have the outer row of cells on all sides more completely attached to the wood, than a wide one. This was clearly demonstrated over eleven years ago, when our Canadian brethren in bee-craft staged something like seventeen tons of comb-honey in sections, which, for finish of sealing and completion of comb attachment to the section on all sides, fairly astonished all British bee-keepers who, along with ourselves, witnessed the display. It also conclusively proved what is stated above, viz., that the width of the section used has a very material bearing on the complete building-out and sealing of the combs built in it, and decided us in favour of a narrow section in this respect. Nor do we doubt that all will agree in conceding the point.

We must, not, however, shut our eyes to the fact that, although the beautifully filled combs in the Canadian exhibit of '96 caused a great rush among bee-keepers here on the particular width of section used in producing them, it took but a couple of seasons' trial in this country to so completely bring about their disuse, that a well-known appliance dealer was offering his remaining stock of the narrow Canadian section as nearly as possible for the taking away, and could

hardly get rid of them at any price. Bearing in mind, therefore, the complete dying out of this craze, with no subsequent attempt at its resuscitation, we have been making a few measurements with the view of ascertaining the differerence between the "new style" section and the discarded Canadian one, for the purpose of comparison. Of course there is a difference, and it may prove sufficient to turn failure in one case to success in the other.

In the first place, then, we are fortunate in possessing a section of comb-honey (it lies before us as we write) in much the same condition as when handed to us at the exhibition in 1896 by the late Mr. S. Corneil, then of Lindsay, Ontario. Though little anticipating its being useful for our present purpose, this section has been carefully preserved; the sealing is still intact and, though the surface of the capping is not so dry as when it first came into our possession, a good portion of the honey is still liquid. The section measures 5 in. by 4 in. so that the comb-surface is larger than the $4\frac{1}{4}$ in. by $4\frac{1}{4}$ in. section of to-day. All four sides of the section are the same, the width of the wood being $1\frac{1}{8}$ inches, while the projecting corners are $1\frac{1}{2}$ in. full. The comb projects slightly beyond the wood, consequently it measures $1\frac{1}{8}$ in. full. Thus much for the Canadian section of 1896. Acting on the instructions on page 27 to plane off the bee-way of a $1\frac{7}{8}$ in. section of Messrs. Root's $4\frac{1}{4}$ in. by $4\frac{1}{4}$ in. make, we find the wood is very slightly over $1\frac{1}{2}$ in. wide, therefore if the comb is so regulated as to "retreat" from the face-edge of the section $\frac{1}{16}$ in. we shall have a comb $1\frac{3}{8}$ in. through from face to face. The point that strikes us—so far as comparison between the filled Canadian section and the unfilled American one—at this juncture is:—What will be the weight of a comb $1\frac{1}{8}$ in. thick in a 5 in. by 4 in. section compared with a comb $1\frac{3}{8}$ in. thick in a $4\frac{1}{4}$ in. by $4\frac{1}{4}$ in. section? We have it inferred, if not specifically stated, that the new section will weigh nearly 1 lb., but, unfortunately for this argument, the larger section of the two before us—so far as surface measurement—viz., the 1896 Canadian one—is quite filled with honey in a comb $\frac{1}{4}$ in. less in thickness than the smaller $4\frac{1}{4}$ in. one, yet it only weighs 11 oz.! If our memory serves us rightly, the weight was originally supposed to be 12 oz., or, as it was termed, a $\frac{3}{4}$ lb. section.

In conclusion, therefore—and without wishing to press the point too closely—we think it will be well to note how dangerously near the "New Style" section approaches the one we have been comparing it with, as regards weight and solid substance; these two features being, in our opinion, the main reasons why the narrow Canadian sections of 1896 failed so completely to find favour with either honey-consumers or honey-producers in this country.

The point then, for all concerned, is to see that no mistake is made, this time, but that we keep well in view the fact that to make the new section a success it must approximate as nearly as possible 1 lb. in weight when full; and, we add, that no test of this question will equal a year's trial of it.

KENT AND SUSSEX B.K.A.

ANNUAL MEETING.

The nineteenth annual meeting of this Association was held on Saturday afternoon, the 22nd inst., in the board room of the R.S.P.C.A., 105, Jermyn-street, W. Mr. E. D. Till, Chairman of the Association, presided, and those present included Messrs. G. T. Giddings, M.D., E. Longhurst, A. J. Carter, M. Killner, Ned Swain, R.E., J. O. Dewey, S. Gerrard, W. H. P. Radley, Jas. Lee, R. Lee, E. Walker, W. Broughton Carr, Geo. Wells, H. Hammond Brice, H. G. Morris (Hon. Treasurer), and Henry W. Brice (Hon. Secretary).

The minutes of the previous annual meeting having been read and confirmed, the Hon. Secretary read the annual report, which recorded a large increase in the membership of the Association; the number of new names added to the list in 1897 being 202, whilst the local hon. secretaries are now increased to sixty-one. The report also referred to the increased work done by the Association's expert, 1,788 hives having been examined in 307 apiaries. The inspection by the expert showed a considerable reduction in the number of stocks affected with foul brood in the counties; a result entirely attributable to the exertions of the Association and the earnest desire of its members to eradicate the mischief. Referring to the "Trophy Class" at Manchester, both counties embraced in the Association had secured a prize, viz., Kent 4th and Sussex 5th, besides two bronze medals of the B.B.K.A. This competition had, however, been very costly to the Association, which

was reflected in the annual statement of accounts, besides entailing much work and personal supervision by the Chairman and Hon. Secretary. The most satisfactory outcome of this work and outlay was the fact that all the honey staged in the trophies had been sold, and in addition not less than a ton of South County honey had been disposed of to buyers in the district of Manchester.

The report also deals with the success of the annual show at Hastings, and the very satisfactory result of the amalgamation of the two counties of Kent and Sussex as a dual County Association. Another notable item of the year's work was the disposal of a large quantity of members' honey at the Dairy Show in October last, by the help of Messrs. James Lee & Son, who had honey-stands in the building. The report concludes with an urgent appeal to members for increased subscriptions to enable the Council to carry on the work with energy and efficiency, as, notwithstanding every care in husbanding the Association's resources, the income falls short of the expenditure. The report and balance-sheet were adopted *nem. con.*

Votes of thanks were accorded to the retiring President, officers, and Council. Sir Henry Harben, Warnham Court, Horsham, was then elected President in succession to the Duke of Devonshire. The retiring Council was re-elected, with the exception of Messrs. W. Sturt, G. C. Kennedy, C. Baldwin, and W. Newman, whose places are filled by the Rev. A. Carr, Messrs. E. Longhurst, and E. Clarke.

The Hon. Treasurer and Hon. Sec. were also re-elected, together with Henry Brice, junr., as assistant Hon. Sec.

The annual drawing of prizes for cottager members then took place, and the meeting closed with the usual votes of thanks.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

APICULTURAL NOTES.

THE "NO BEE-WAY" SECTION.

[3143.] The latest addition to the apicultural programme for 1898 is the new-style section. We have had sections with four bee-ways, two bee-ways, and one bee-way. We now have introduced to our notice a section with *no* bee-way at all! The introduction of new appliances is, no doubt, a healthy sign; it shows that the spirit of enterprise and progress is still alive.

Years ago I was very fond of putting into practice new ideas and testing new appliances, so as to be able to testify from practical experience as to the merits or demerits of the same. But, somehow or other, I have of late become more staid. That is to say, it takes a good deal to induce me to depart from old-established and well-tried methods of bee management, and before I adopt anything "new"—or supposed to be new—in the way of appliances, I want to be pretty certain that it will either reduce expenses, lessen labour, increase the yield of honey, or raise the price of same. I have tried to look at the "no bee-way section" from an unprejudiced and impartial point of view; but after reading what has been said of it, I am unable to see where it will fulfil any of the above-named conditions. The new section may perhaps be produced at a trifle less cost than the old one; but the dividers will necessarily cost more, so that the saving on the one hand will be counterbalanced by the extra expense on the other. That being so, we cannot expect much in the way of reduced expenses. Nor do I think there will be very much labour saved. It is claimed that the new-style section will be more convenient for clearing away propolis from edges when preparing for market. Now, the way I clean my sections is as follows:—I take a very sharp knife—one that has been in use in the house a long time, and has got worn very thin at the point. I then take off a thin shaving all round the section, and it does not seem to take me any longer to shave that part of the section where the bee-way is cut than the straight side (I always use two bee-way sections), so that I fail to see how I could clean the new-style section in any less time than is taken with the old-style one. It is also claimed that the new section will take up less room in packing. Exactly; but where is the advantage in that? Packages for sending out sections of honey are cheap enough, the cost being at the rate of one halfpenny per dozen section; that is to say, a case to hold six dozen sections only cost threepence; and when the same is sent by rail it is the *weight*, not the *size*, that has to be paid for. The fact of being able to pack a given number of sections in a less space is, therefore, no gain whatever to the bee-keeper in this country. Wholesale honey-buyers nowadays are very particular about having well-filled sections; that is, they must not contain much short of 1 lb. of honey (as much over as you like; no one objects to *that!*). Knowing that to be the case, we have to do one of two things, viz., work our bees so that they will fill the sections well, or run the risk of having a lot of small and unsaleable ones to deal with. Now, if we use sections 1½ in. wide, and crowd our bees the same as we do now, it will assuredly happen in many cases that the surface of the comb will extend *beyond* the

edges of the sections; and if two such sections are placed together in a parcel, they will certainly both be spoilt. A slight warping of the divider—or a small piece of propolis, that may get stuck to the same, which prevents the section going *close* up—will be sufficient to cause the mischief I have pointed out; and in packing up sections unglazed in parcels of half-dozens, the outer sides of the end sections will be damaged, as in tying up the parcel the paper would be pressed into the honey, whereas with the old-style sections the protruding parts of the section act as a protection. What I have said of packing also applies to glazing. If any one uses the no bee-way section in the manner it is suggested, I shall be very much surprised if he does not find a good number of sections which he is unable to glaze. We are told that the bees will fill the new-style sections fuller than the old style. If bees are properly managed they will put an average pound into the old-style section. I have frequently had them weigh 18 oz, and in a few cases 19 oz., but 1 lb. is quite as much as we are prepared to produce at the present low wholesale prices. I see that Editor of *Gleanings* speaks very highly of the new-style section. Now, supposing that it really does look nicer when full than the old one—or to quote Mr. Root as "extra fancy"—will the bees fill *more of them*, or will those they do fill fetch a higher price? To my mind that is the question. A good deal more might be said on this matter, but I find I have already written somewhat lengthily, and have only just time to catch post. So I may refer to the matter again in my next "notes." In the meantime I shall expect a little "trouncing" from our enterprising friends, who appear to be able to see such good results from the use of the new section.—ALLEN SHARP, *Brampton, Hunts, January* 24.

THE "SCHENCK" THEORY.

DOES IT AFFECT BEE-KEEPING?

[3144.] I have read nothing about this, save what appears in your editorial or "Useful Hints" (p. 21), but I heard, a fortnight ago, how a Continental professor was seeking to prove that, by a specialised course of diet and other treatment, male progeny amongst mammals could be secured. (So you see how much behind the times I am!) I was struck at the time by the probable accuracy of the theory when I remembered how often it has been dinned into the ears of bee-keepers—and so seldom believed—that the eggs produced in the ovaries of the queen bee are all male, and remain so until, when actually upon the point of being laid, and after ejectment from the ovary the contact of a minute quantity of the contents of the spermatheca differentiates the sex of the egg from perfect male or drone to perfect female or queen; the after treatment of this egg (that is, the suppression of the supply of brood food secretion by nurse bees and the restricted area of the worker cell) again differentiating the sex into that of a female bee (worker), incapable of reproducing its own sex.

So far as regards the "Schenck" theory, the worker bee part of the business might be left alone, although, in the case of mammals, if it were possible to restrict the quantity and change the quality of food supplied to the ovum, besides the restricted area question, it is quite on the cards that a similar result might be brought about.

The facts about reproduction are not known in even their rudimentary form by most people, and the columns of the B.B.J. can perhaps be better filled with bee matters pure and simple, than with the enunciation of ideas nine bee-men out of ten would shout out against in ignorant (I don't use this word offensively) indignation. Suffice it that there are plenty of instances to show that the so-called "weaker sex" amongst animals is really the higher organised of the two, and can, in such instances, *per se* reproduce the less perfect male, whilst it requires the fusion of two organisms for the reproduction of the more perfect sex. It is so about bees, and may, in a measure, be only a question of prepotency to become so about the so-called high vertebrates. —R. A. H. GRIMSHAW, *Leeds, January* 24.

[At foot of his MS. of above is added (not for publication) the words:—"How like old times!" To which we add:—Very; and it would be still more "like old times" if we heard from you oftener. Anyway, we are glad to have a line from R. A. H. G. at any and all times.—EDS.]

DEVON AS A BEE COUNTY.

MY FOUR YEARS' EXPERIENCE OF IT.

[3145.] So rarely is anything seen in the BEE JOURNAL about bee-keepers in South Devon, that it may interest some of your readers to know what my four years experience amongst the bee-keepers within a considerable radius of Plymouth has taught me. To commence with, I packed, properly ventilated, and secured some good sound stocks and left them with instructions how to cart and send on by rail the next day, as I was unable to stay and superintend the work myself. My instructions were not carried out, and, in consequence, the bees were a fortnight in arriving at their destination. On examination I found the hives were sadly banged and knocked about, some combs were broken away, and all the stocks had suffered more or less from want of air. The weather being mild the poor bees in trying to get out had almost choked the entrances.

After a while, however, I got them in order, but owing to above causes, had to reduce the nine stocks to six. I soon afterwards found traces of foul brood, but managed to stamp it out. Since then my own bees have done fairly well, 1897 being an excellent season.

When I first got my apiary here and in order many were the queries about what was kept in them "box things"? The hives, being in a prominent position, could be seen from a long distance, and caused plenty of speculation among the natives as to what they "meant." It soon, however, became known that I was an expert bee-keeper, and in a short time I was requested to call and inspect the remnants of the one-time Devon and Cornwall Bee-keepers' Association, which, I believe, existed nearly twenty years ago. I believe the Association died a lingering death, leaving behind but a few enthusiastic bee-keepers in South Devon. There must be scores of old frame-hives about Devonport, reeking with germs of foul brood, the owners of which will neither clean or destroy them. Strange to say, there is one apiary in Devonport which has been free from foul brood two seasons, whilst there are not less than a dozen hives within a hundred yards simply rotten with it. Of course, the owner of the healthy apiary is zealous and attentive to his bees, and, I hope, will so continue.

Foul brood, however, appears to be confined to the district of the Three Town, for I have seen no sign of it anywhere about Dartmoor, where I have, at different times, spent many days driving bees from skeps. Devonians, especially about Dartmoor, are very superstitious about bees, and will tell you they never take money for them; but, let me add, none for whom I drove refused payment, which I invariably offered, chiefly as an inducement to get them to take an interest in advanced methods of bee-keeping. Altogether my bee-driving excursions were rather expensive. Most of those with whom I have come in contact look favourably on the bar-frame system, especially in the fruit-growing districts between Plymouth and Exeter. I am sure the county is ripe for the establishment of a B.K. Association—that is, if a little help can be obtained from headquarters in the way of a bee-tent, lectures, &c. I cannot understand why Devon has been so tardy in establishing an Association. Surely there is no more suitable county in the kingdom, with its vast and famous Dartmoor, with miles of heather, clover, gorse, hawthorn, and many other honey-yielding flowers, and its thousands of acres of fruit gardens and orchards.

There are many small farmers on Dartmoor struggling for an existence who could, with proper care and attention, pay more than the rent of their farms by bee-keeping; but they would have to be personally taught, for many of them can neither read or write, even in this advanced age of education. Of course, many of these small farmers do keep bees, but only in skeps, and the only attention they give is to hive their swarms and destroy in the sulphur-pit those skeps which are doomed; and as they always destroy the heaviest, the lighter ones do not survive the winter, or if they do it is late in the season before the stocks are strong enough to swarm or collect much surplus honey.

By those who take what I call a lazy interest in bees one's advice is asked and services accepted, but the advice is not acted upon until too late, simply because there is not enough interest, or else not enough jealousy of their neighbour to stimulate to healthy action. In conclusion, I may say that if there is any likelihood of establishing a county Association, I think I could supply a list of a few in this neighbourhood who would be pleased to become members. — H. S. H., Expert, *January* 24.

[Our correspondent should put himself into communication with the hon. sec. of the Association now being formed for Devon and Exeter, or attend the meeting to be held on Saturday next, the 29th inst., at the Guildhall, Exeter, at 3.30 p.m. (see p. 22 of last week's B.J.).

TWO QUEENS IN ONE HIVE.

[3146] Referring to the letter of your correspondent "J. K.," No. 3,140, page 24, in this week's JOURNAL, I would say that several years ago at the end of the season I found one of my hives crammed full of bees. The hive contained ten standard frames, and every comb was covered with a thick mass of bees, such as I had never seen the like of before; and this caused me to keep special watch upon this colony. In early spring, while using the searching iron to clear away all dead bees, &c., from the floor-boards, I drew out from this hive about a quart of dead bees which had accumulated at the back part furthest away from the entrance; this was far more than I got from the other nine hives put together. I thought this very strange, and as soon as the weather was warm enough, about the middle of March, I examined the stock. I found the bees covering eight frames, but I noticed there was brood on *both sides* of the four central frames, also eggs on two other frames, but only on one side of each, the curious part being that the two combs containing eggs were on the outside ones, on each side of the four with brood. The thought never struck me that there might be two queens present, and I saw one queen on the fourth comb from the front. After closing up this hive I examined several other stocks, but in none did I find more than two to three frames with brood.

The next day was still warmer, and, while standing listening to the music of the bees as they passed busily to and from the water-butt, I was congratulating myself on so good a beginning as it was for another season, when I noticed an unusual commotion around my special hive, and on going closer to have a better view, I saw the queen lying curled up dead upon a board in front of the hive! After making quite sure there was no mistake, I thought to myself what a fool I was to pull those frames about and thus cause the bees to ball and kill

their queen. Although down-hearted for several days about my lost queen, I had sufficient curiosity to take another look at that hive, and when on doing so, oh, my delight! Well, there, I danced the Scottish hornpipe there and then, for on the fifth frame from the front I saw a beautiful queen in full swing breeding away merrily, prepared to declare war upon any usurper. This, I think, was a clear case of two laying queens in one hive, and by disturbing them I evidently caused the two queens to come together, and the weakest went to the wall. That hive gave me seventy-five full sections in that year, the most I ever had from a single hive in one season.

To-day, January 21, is a lovely bee-day. They are working upon wallflower, of which I have a quantity in full bloom. I have sent you a few heads for you to see, wishing all readers of BEE JOURNAL a prosperous year 1898.—A. H. MILLER, *Egham, January* 21.

HORNETS.

[3147.] In reply to Mr. G. A. King (3,141, p. 23) my experience is that hornets do kill bees. Last May I saw a queen hornet flying around my hives several times, and on two occasions saw her carry off a bee towards her nest, which I afterwards found about a quarter of a mile away in the direct line of flight. The nest was not interfered with to my knowledge, and the hornets were at work in October, so that in all probability a good number of young queens escaped destruction. On one of the occasions mentioned, the queen hornet was hovering and buzzing within a few inches of the entrance of a hive when one bee attacked the hornet, and both fell together. The hornet, however, killed the bee and flew off.

There was another hornets' nest about a quarter of a mile away in another direction, which was not interfered with, and I saw them at work very late in the season—in November, I believe. Another nest was destroyed in a weak state early in the season, nearer home. I have seen a hornet catch a wasp on flight around some pears, and both fell on the ground together; the hornet trimmed up the wasp and took it off to another nest. I followed the line of flight across four fields, and found a strong colony. Each of the before mentioned were in pollard trees, three being in willows, and the other in an oak. I have known hornets attack dahlia stems near the ground, and they also strip the bark from young ashwood, whether as food or for building purposes I did not decide. One ash tree growing in a hedge near here was attacked by hornets when in a young state nearly fifty years ago, and the effects are plainly visible from protuberances or warts formed, and at that point the tree measures about 18 in. larger in circumference than it does a foot above, where the bark is clear. Some five or six years ago I destroyed, and helped to destroy, about a dozen nests in this locality, one strong colony being in a rabbit's hole in a bank about 6 ft. from the entrance, which took some hours to obtain; but it was a beautiful nest and and contained at least fifty young queens. — J. H., *Redditch, January* 21.

THE "ROYAL" PRIZE LIST FOR 1898.

[3148.] I trust the Appliance class (341) will be competed for, or the funds applied to a better purpose than bolstering a double-barrelled entry. Our Scotch friends exercised the right in days gone by of withholding highest honours in case of a very *mild* competition. Still, I would not do it as they—without stipulating in the rules that the first prize would be withheld unless four distinct firms entered the competition.

Again, classes 342 to 346 (both inclusive) are, I think, going to give much dissatisfaction again, unless it is distinctly noted that the prices and goods therein shall be selected from the current price-list of the exhibitor. I consider this proviso necessary in order to upset that "pricing to win" which is far too prevalent. Besides, the prices given are often not intended to be adhered to if goods are wanted by, say,—ROBIN HOOD

BEE-PAPERS FOR WINTER READING.

[3149.] Referring to the suggested re-issue of the articles referred to by H. Peters in B.B.J., January 20, p. 30, I shall be very pleased, if it can be done as stated, and hope you will be able to see your way to carry it out. I have only taken the B.B.J. for the last two years, but always look forward to the day of publication, as I find it extremely interesting and helpful, and especially so since you have given us the illustrations, and descriptions of the "Homes of the Honey Bee."—FRED. J. BROWN, *Smethwick, January* 24.

SHAVINGS FOR PACKING HONEY.

[3150.] In my "Bee Notes from Ross" (page 504, vol. 25), I observe that a slight mistake was made. I do not think that the "ordinary" shavings will be suitable for packing sections for Parcels Post. I used the large shavings (about 2 or 3 in. wide), which would, I think, bear the pressure better and be more "springy." You did not mention where I could get the circular sections! I should like to know, if only for experiment.—D. H. F., *Ross, January* 18, 1898.

[We do not know where circular sections can now be had, or of anyone who makes them.—EDS.]

GALVANISED OR TINNED?

[3151.] Having just purchased a honey valve from a well-known firm of bee-appliance

manufacturers and furnishers, I was suspicious that it was galvanised, and not tinned, as described in their catalogue. On testing for zinc I found that it *was* galvanised, so I take this opportunity of warning bee-keepers to make the following simple test in any case where they have reason to doubt the genuineness of the tinning:—Apply a drop of spirits of salt (hydrochloric acid), and if there is a decided effervescence it is galvanised, and not tinned. I must say that I believe the firm are not aware that the goods are not tinned, as described, as they do not *make* these particular valves themselves, and I have written them pointing out the fact.—D. G., *Ilminster*, *January* 24.

IRISH BEE-KEEPERS' ASSOCIATION

The committee met on the 20th inst. Present—Mr. Farrelly, in the chair, Dr. Traill, Mr. Read, Mr. Watson, Mr. O'Bryen, and Mr. Cheuevix (Hon. Sec., 15, Morehampton-road, Dublin). Terms were arranged on which branch societies might be affiliated to the central Association. A grant of £5 was made from the general fund towards the special fund for giving instruction in bee-keeping at Glasnevin.

ROSS AND DISTRICT BEE-KEEPERS MUTUAL IMPROVEMENT SOCIETY.

At a meeting held at one of the member's home, on January 13, it was unanimously agreed that such a society as is named in the above heading, was needed in the district. Some of the advantages open to members are:—Fortnightly meetings and discussion on a given subject. Help and advice to those in need of bee literature, especially the "young hands." The opening up of a good market for our produce.

Each member pays a small yearly subscription to defray postage, &c. The first meeting was very encouraging, and a decided success, fifteen members joining. Mr. F. Hills was chosen hon. secretary, and it was decided to ask a few gentlemen interested in the pursuit to become honorary members. After the objects of the Society had been well discussed, and a few "exciting adventures amongst the bees" had been related by various members, the meeting dispersed. The next meeting will be held on January 27, when "The Advantages of Bee-Keeping" will be introduced and discussed. More later on.—(*Communicated.*)

Queries and Replies.

[1897.] *Doubling and Storifying.*—I have three hives (Nos. 1, 2, and 3). No. 1 is a lot driven in September last. This stock is strong. No. 2, a swarm of 1896, gave me 54 lb. of honey last season. No. 3, a last year's swarm, yielded 30 lb. of honey. In the coming season I propose to storify No. 1, using either a box of standard frames or shallow ones. I therefore ask:—1. Which is best? 2. I intend "doubling" No. 2, taking the frames of comb and brood for that purpose from No. 3, replacing them (in No. 3) with frames of empty comb that I have now by me. 3. Should queen-excluder be placed between the boxes when doubling? The object being to get as much honey as possible, shall I be going the best way to attain it? if not, kindly put me right.—South Devon, *January* 21.

Reply.—1. Our preference is for the shallow frame in surplus-chambers. 2. The "doubling" process, if properly carried out, will probably give as good a return as any, especially when built-out combs are on hand for giving to the bees deprived of their brood. 3. There is no need for queen-excluder between the two chambers occupied with brood-combs.

[1898.] *The Law of Parthenogenesis and Bees.*—1. I should be very pleased if you would be kind enough to explain the following passage, which appeared in "Useful Hints," page 21 of last week's issue. You there say:—"Which eggs will produce, not worker-bees, but drones so perfect as to be capable of reproducing the race in the ordinary way." I don't quite understand this, hence my query. 2. I have always expected that there would not be any worker brood in the hive when they have advanced thus far. Am I not correct in this? 3. I also beg leave to differ from a remark made by Mr. Pritchard (No. 3138, page 24). He gives us to understand that, in any case, there is a young queen with a swarm, which I am confident is just the opposite, because the old one generally takes off with the swarm.—W. H. R., *Norwood*, *Beverley*, *January* 22, 1898.

Reply.—1. The anxiety to avoid needless repetition leads us, no doubt, at times to suppose that readers are more conversant with well-known facts connected with the natural history of the bee than is really the case. We therefore gladly explain the words quoted by stating that the eggs referred to are those of a laying worker, *i.e.*, eggs produced by a neuter, or undeveloped female bee. Not only so, but by the very wonderful law of *parthenogenesis*, these same eggs, though from an unmated mother, will produce perfect drones capable of fertilising a queen bee whose progeny will not differ from that of a queen mated with an ordinary drone. 2. Like yourself, we must admit that we don't quite understand this query, and so cannot reply to it. 3. Mr. Pritchard while writing of swarms in July, probably refers, in this case, to second and third swarms, which, of course, are headed by young queens.

[1899.] *Danger of Moving Bees Short Distances.*—Having bought three hives of bees

last July, I put them on a bench, and then made a shed ten yards away just large enough to hold the three hives, which latter were moved in the shed in September. I did not know at the time that to move them was wrong, till I found the bees flying back to where the hives were at first located. I lost some hundreds through that move. I read your warning on page 17 of B.B.J. for January 13 about disturbing hives at this season, but I must move mine some time, seeing that, as they stand at present, I cannot get behind them to do anything. My desire is to get them placed about eight or ten yards from where they are; but rather than lose any number of bees through moving, I would take the shed away, and let the hives remain. On the other hand (if it can be done safely), I also want to move them because they are not in the best position. Kindly give your opinion as to the best plan.—E. K., *Dartford, Kent, January* 22.

REPLY.—If a little trouble is taken to disguise or alter the appearance of the hives, there will not be much risk of loss in moving the hives at this season. Just lay a branch or bough of a tree across the front or entrance of each hive, so that the bees will not fail to notice it as they fly forth. This done and the removal effected after the bees have been confined indoors by cold weather for a few days, little loss of bees will result, and when they have had a few flights from the new location the hives may resume their original appearance.

[1900.] *Experts' Certificates.*—I wish to enter an examination for a third-class expert in connection with the B.B.K.A. 1. Could you please inform me, through your columns, how I am to proceed? 2. Also please say how I could obtain copies of the papers that were set for last year's first and second-class examination?—OXONIAN, *Oxford, January* 17.

REPLY.—1. Write to the Secretary of the Association, Mr. Edwin H. Young, 12, Hanover-square, W. 2. All papers used in last year's examinations are retained by the B.B.K.A., and, being regarded as private, are not distributed in any form. Besides, the questions vary each year. Full instructions to candidates are obtainable from the Secretary.

[1901.] *Bee Flowers.* — Having taken up bee-keeping last year with a couple of swarms, and being a regular reader of your Journal, I write to ask you for the following information:—1. Are ten-week stocks good and useful flowers to cultivate for the bees, and if so, what variety is best? 2. Is wisteria also of any use? My house is covered with it, and it blooms very freely. I ask the first question because I have a fairly large garden, and always thought stocks were much frequented by bees. Yet I do not find these plants included in Sutton's collections of flower seeds for bees. Trusting you will give me a reply in your interesting Journal.—W. L., *East Kent, January* 20.

REPLY.—1 and 2. Neither of the flowers named are accounted of any appreciable value to bees. Messrs. Sutton's collection of bee-flowers is very complete, and contains all that are really useful as honey plants.

[1902.] *Examining Brood Combs in January.* —Will you kindly examine sample of comb contained in match-box which I am dispatching by same post? Whilst looking to see how my bees were faring with regard to stores, I could not resist the temptation to see how one stock was off for brood. I found one frame fairly filled with eggs, larvæ, and capped brood, all apparently healthy, except one cell, the contents of which rather alarmed me. This cell is included in the small piece of comb sent. I shall be glad if you will kindly state in BEE JOURNAL whether or not foul brood is present. —H. G., *High Garrett, Essex, January* 24.

REPLY.—We find no disease in the contents of the "one cell" referred to. Of course, the small larva it contained was "chilled" when received, as was the other larvæ in the small piece of comb sent. Nor should we be surprised if there is more chilled brood in the hive, if combs have been exposed at this season. January is altogether too early for examining combs containing young brood, as in your case. We trust no further harm will follow, but such "temptation" *should* be "resisted," if the welfare of thriving stocks is of any account.

[1903.] *Decoy Trees for Swarms.* — 1. A friend of mine has a small apple tree close to and in front of his hives, from which he has taken all (eight) his last season's swarms. Is it possible or likely that in planting young trees in front of hives you may save trouble in hiving by bees swarming on them? 2. Can you account for a Porter Bee-escape Super-clearer becoming blocked when used exactly as instructed in guide book?—W. J. R., *Cricklade, Wilts, January* 22.

REPLY.—1. Low-growing trees, such as you name, are much favoured by swarms as clustering places, and are very useful in an apiary. 2. There must be some fault either in the escape or the manner of using it. There is no reason for a properly-made Porter bee-escape being blocked as stated.

BEES IN A BLOCK OF STONE.

A correspondent requests us to insert the following cutting from his local paper, as being of interest to bee-keepers—

"During the progress of work upon a new church which is being erected by Mr. E. C. Jordan at Crindau, Newport, a remarkable discovery was made. The masons were sawing through a piece of Bath stone from Corsham Quarries, near Bath, when they came upon a

small cavity lined with spar. Such cavities are not unusual, but the surprise of the workmen can naturally be imagined when it was found that inside were six bees. Apparently (and the sections of stone were brought to the Newport *Argus* office for inspection) there was no entrance to the cavity before the saw cut into it, and the presence of the bees is a mystery. They were alive, and two of them were still quite active when brought to the *Argus* office in a small box by Mr. Page, architect, who is in charge of the work for Messrs. Graham, Hitchcox, & Co. He was on the spot when the discovery was made, and he at once captured the bees and secured the block of stone as a curiosity. The question is—How did the bees get there?"

USES OF HONEY.

If the woman with a delicate throat would eschew fur collars and warm wraps, bathe her neck and chest in cold water every morning, following this heroic measure by friction with a rough towel, and indulge in honey at all meals except dinner, she would not need cough mixtures and iodine, mustard leaves and cold compresses, says an authority. Muffling the throat with silk handkerchiefs and heavy boas, and collars, is an excellent way to make it sensitive. Breathing through the mouth, sleeping in a close room, and getting the feet wet, any woman with a tendency to throat trouble should guard against. Excessive fatigue often brings tonsilitis to children, and in cases where colds are apt to settle in the throat children should be encouraged to eat honey on their bread instead of butter, and to take it in preference to sweetmeats. Rice puddings, in which honey has been substituted for sugar, are delicious and wholesome, and also good for the little delicate ones.—*Daily Mail.*

PURE HONEY AND CANE SUGAR.

THE following correspondence, which appears in the October number of *Gleanings*, will be read with interest :—

[Some little time ago I stated editorially that I was under the impression that pure honey was liable to contain a small percentage of cane sugar, and that, when the chemist detected a small amount of it in honey, it should not be construed as evidence that the honey had been adulterated. On page 493, Mr. Selser, of Philadelphia, a chemist, criticised the statement, adding that my mistake doubtless occurred from the fact that I had confounded chemical and commercial terms. "Pure honey," said he, "does not contain any cane sugar, commercially speaking; . . . but there is a very large percentage of sucrose, and sucrose is a chemical term for cane sugar."

Prof. Cook, on page 624, in referring to this article of Mr. Selser's, said he thought it contained several errors, and hoped it might be submitted to Dr. Wiley for review. Following up the matter, I wrote to the doctor, sending him a marked copy of the article in question, and the following is his reply.—ED. *Gleanings.*]

U. S. Department of Agriculture,
Division of Chemistry.

THE A. I. ROOT COMPANY, MEDINA, OHIO.

GENTLEMEN,—I take pleasure in complying with your request of the 21st instant, in respect to the statements in the article on page 493 of *Gleanings.*

The subject under discussion is hardly a matter for argument, because it is simply a question of the use of terms. The expression "cane sugar" is used constantly by chemists as a synonym for sucrose, although I do not believe that sucrose is used synonymously with cane sugar by the commercial world. In commerce, cane sugar is simply sugar made from sugar cane, as beet sugar is sugar made from beets, and maple sugar sugar made from the maple. Chemically these sugars are all identical, and are spoken of indiscriminately by chemists as cane sugar or sucrose.

The sugars which are present in a genuine honey are almost exclusively cane sugar or sucrose, and invert sugar, which is made by the inversion of cane sugar. It is probably true that the original sugar of nectar is almost exclusively cane sugar, which is inverted either by the acid juices of the plant itself or by the digestive organism of the bee. In ordinary honey this inversion is almost completed, and very little cane sugar or sucrose remains, almost the whole of the sugar being invert sugar that is composed of about equal portions of dextrose and levulose.

It does not appear to me that the criticism of your correspondent, Mr. Selser, is well founded; but the character of his statements does not quite corroborate his claim of being a graduate of a special course in analytical chemistry. It is not quite in harmony with a scientific spirit to state that "there is not 1 per cent. of cane or common sugar in pure honey. In this statement I defy contradiction."

I do not claim to be a honey specialist, and it is so long since I graduated in chemistry that it has ceased to be a matter of gratification to me to remember the date. I have, however, never been so certain of any position that I may have taken in scientific matters as to boldly proclaim that I defied contradiction. In point of fact, the sugars which are present in honey are exactly the same as the sugars of commerce : viz., sucrose, or cane sugar ; dextrose, or right-handed sugar ; and levulose, or left-hand sugar. It would require a great many statements from Mr. Selser to alter this fact, but still it may be easily contradicted.—H. W. WILEY, Chief of Division.

[After receiving the foregoing I sent it to Mr. Selser for further review, and he replies as follows.—ED. *Gleanings.*]

The article you first published, the basis of

which was taken from "Prof. Wiley's Book on Honey Adulterations," as well as the present article from Prof. Wiley, is not a matter for discussion between the two classes—scientist and laity—and as such is very misleading. I do not contradict a word of Prof. Wiley's paper; from a scientific standpoint it is *absolutely correct*, and I desire to state that my words defying contradiction were addressed to the reader of *Gleanings* — the honey-producer. I desired to make it very emphatic, that if he placed 1 to 5 per cent. of commercial sugar in the honey, it could be detected by analysis; and your statement that "5 per cent. of commercial sugar in honey did not prove that it was adulterated" I felt was an error that might result in terrible consequences. In proof of what I say, I make the following offer to the readers of *Gleanings*:—

Mail me five samples—say 3 oz. each—of honey; let four of them be pure, and one adulterated with 5 per cent. of commercial sugar; number each one. If I do not detect the one that is adulterated I will pay to the sender 10 dols.; if I do detect the 5 per cent. of commercial sugar he is to pay me 5 dols., or the price of my analysis, 1 dol. a sample.

Now, scientifically, turn to the "Government Book on Adulteration of Honey," 1892, page 791, the top of page showing sample No. 41 of pure honey to contain 8 per cent. of sucrose and 65 per cent. of reducing sugar. This sample was proven to be positively pure. Now, Prof. Wiley uses the same word for sucrose as cane sugar, and also says the words are not used synonymously in the commercial world. Here is where the line must be drawn, and I repeat the professor's words, "It is simply a question of terms."

Now, practically. In my visit to a large honey-producer I mentioned the fact that my State, Pennsylvania, had a law that, if the smallest per cent. of commercial sugar was detected in honey, there was a fine of 50 dols. for every store selling it. He said that, in the fall, he fed a lot of granulated sugar. Most of it had been consumed by the bees, and but a very small percentage remained in the combs. When fruit bloom commenced he thought it so small that he paid no attention to it, and extracted it with the other frames in the first extracting. This man is a good man, and I am sure he meant to do no harm, as he had seen the statement that all pure honey contained a small per cent. of cane sugar.

Had any party from Pennsylvania bought his honey and put it in bottles, marking it "Pure," and sold it to twenty stores, it would have cost the bottler 1,000 dols., and ruined him for life. Will not Prof. Wiley pardon my strong words in the light of these facts?—W. A. SELSER, *Philadelphia, Pa.*

[I am glad to note that there is no real disagreement between Mr. Selser and Dr. Wiley; and I am glad to note also that Mr. S. is perfectly ready to prove his faith by his works; so, then, let the samples go into him. We will gladly give place to the results in these columns. Send him not only sugared samples but glucosed samples; and when he sends you the report, mail a copy of it to us, together with a statement of just how the honey was originally "doctored."—ED., *Gleanings*

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

ALFRED JONES (Southport).—*Starting Bee-keeping.*—Replying first to the remark in second note (dated 22nd inst.), we need only say your query reached us on the 19th, when B.J. was being printed, and, therefore, too late for that week's issue. For the rest, we add to reply on page 10, to say, (1) the "Guide Book" may be had from this office (price 1s. 8d., post free), and contains all that is needful. (2) It will be best to wait till the new catalogues for 1898 appear, when you can see prices and illustrations of hives, &c., and select what is most suitable to your needs. The Hon. Sec. of the Lancashire and Cheshire B.K. Association (Dr. B. E. Jones, Northenden, nr. Manchester) will supply information as to membership if applied to, and that Association supplies its members with our monthly, the *Record*, wherein is a department for beginners, and a column devoted to "Work for the Month." It thus complies with both your suggestion as to what is suitable for beginners. (3) There is some good bee-pasturage a little way inland from Southport, and also about Fleetwood.

W. LLOYD (Lancaster).—*Moving Bees.*—See reply to E. K., Query 1899, p. 37.

J. A. CHINCHEN (Dorset).—*Honey Vinegar.*—We should like to know what method or whose recipe you have followed in making honey-vinegar as sample? It is a deal too weak and flavourless to be called good.

SAXON (Llanberis).—*Temperature for Opening Hives.*—We quite agree as to the aggregate number of days in the year when the temperature is above 65 deg. Fahr., being small compared with the total 365; but it should also be borne in mind how large a percentage must be deducted from the whole as the months when bees are, in a measure, hybernating. Remembering, too, that exposure of young unsealed larvæ to the wind for about five minutes at a temperature below 65 deg. will cause it to chill and die, it will be understood how necessary it is to give a word of caution, erring, if at all, on the right side. In other words, an experienced bee-man does not need to consult his thermometer to know when he may safely open a hive and lift a comb of brood for examination; but others, less experienced, may do serious harm if they indulge their curiosity carelessly in the same direction. Your other query shall have attention next week.

Editorial, Notices, &c.

WELLINGTON AND DISTRICT B.K.A.

COUNTY COUNCIL LECTURES.

Bee-keepers in the county of Salop will learn with satisfaction that the County Council have decided to promote a greater interest in apiculture, by arranging for a series of lectures on "Bees and Bee-keeping," to be held at different centres in the county. The first of a course of six of these—in connection with the recently formed Wellington and District Bee-keepers' Association, which we are pleased to hear is progressing very satisfactorily—was held at Wellington, on Saturday evening last, the 29th ult., the lecturer being Mr. John Palmer, of Ludlow, who is a well-known expert, holding the 1st class certificate of the B.B.K.A. A thoroughly interested audience numbering nearly sixty persons was present, including the Rev. H. M. Marsh-Edwards, Vicar of Wellington (who took the chair), and Mrs. Marsh-Edwards, Rev. J. A. Panter Messrs. E. Oakes, sen., P. Scott, W. R. Mansell, — Harris, R. Hill, J. Carver, and R. Holland, hon. secretary, together with many other well-known bee-keepers from Wellington and neighbourhood, besides several ladies. The evening was devoted to the natural history of the honey-bee, with lantern illustrations, which contained two very vivid representations of comb affected with foul brood. Some of the slides shown had been very artistically prepared for these lectures by Mr. F. R. Armytage, of the County Council, Shrewsbury. The next lecture at Wellington (all of which are free), will be held on Saturday, February 12, and continued on alternate Saturdays.

It is hoped that all in the neighbourhood who are interested in bee-keeping, will make an effort to attend the lectures, in order to prove to the County Council that such instruction is highly appreciated, and we trust that the County Council will be encouraged to further extend their grant to association experts in the furthering of technical education on the subject of bees and bee-keeping.

DERBYSHIRE B.K.A.

ANNUAL MEETING.

THE annual meeting of this association was held at the Y.M.C.A. premises, Derby, on Friday afternoon, January 28. County Ald. J. L. P. Barber, J.P., presided. Arising out of the consideration of the minutes was the question of supplying copies of the *Bee-keepers' Record* to members, and it was resolved that copies be sent to all subscribers of 5s. and upwards. Among other items of interest, the annual report stated that the honey harvest of 1897 had been a very good one in the county. At the annual show, on September 8 and 9, 1897, the number of exhibits was greater than in the previous year, the competition being most keen. A special feature of the show was the trophy staged by Mr. F. Walker (hon. sec.). Inability to secure honey sufficiently early prevented this trophy being exhibited at the Royal Show at Manchester. Mr. Handby (expert) visited 245 members in the spring and 196 in the autumn. The bees on the whole were in excellent condition, and have done well during the year, the season being a good one. Foul brood had been kept in check; there were a few serious cases and several mild ones, but members were strongly advised to keep a vigilant watch upon their bees, and to do their utmost to stamp out the disease. The Derbyshire Agricultural Society granted £10 towards the prize fund of the annual show, and the Technical Education Committee of the County Council renewed their grant of £50. The Chairman, in moving the adoption of the report, characterised it as satisfactory. In regard to the balance-sheet, it was held over in consequence of its not yet having passed through the auditor's hands, but it was said to be favourable. The motion was carried. The election of officers was next proceeded with. The Duke of Devonshire was re-elected president, and the vice-presidents (with one exception) were also re-appointed. Ald. Barber was re-elected chairman, Mr. Giles vice-chairman, Dr. Copestake treasurer, and Mr. F. Walker hon. sec. The committee were elected, together with district secretaries and local advisers. Medals were distributed to successful competitors at the late show as follows:—Gold medal, Mr. T. Stone; silver medals, Messrs. H. Clulow, G. Pallett, G. H. Varty, F. Howard, H. C. Jacques, and T. Haynes; bronze medals, S. Hadfield, H. West, and G. H. Varty. At the close of the business part of the meeting Mr. Jones (Etwall) read an interesting paper on "The Adulteration of Honey and Bees-wax." (*Communicated.*)

A BEE ASSOCIATION FOR DEVON.

MEETING AT EXETER.

A successful meeting of those interested in the formation of a Devon Bee-keepers' Association was held on Friday, January 21, at the Guildhall, Exeter (kindly lent by the Mayor for the occasion). Colonel Walker presided over a large attendance, among whom were Lady Duckworth-King, the Rev. S. H. Atkins (Shillingford), Miss C. M. Simms, Miss Farrant, Mrs. Tindall, Mrs. R. B. Woosnam, Messrs. J. W. Jacomb-Hood, Mark Farrant, jun., E. Wide, H. Lathrop, T. Harding, J. H. Short, C. Wadland, Catford, T. H. Burgess, H. Tolson, Smith, Godsland, Brown-Jones, Oliver, Westaway, Taylor, Ewens, F. W. Williams, T. E. Lear, A. R. Wilmot, W. S. Harvey, R. J. Ford, F. E. Cory, W. E. Snell, and others.

The Hon. Secretary *pro tem.* (Mr. H. Tolson) said he had received letters of apology

for non-attendance from gentlemen in various and distant parts of the county, all of whom were in favour of an Association of Bee-keepers for Devon. Mr. Tolson further remarked that, judging from the large attendance and from the number of communications in support of the formation of an Association which he had received, there seemed some chance of a Bee-keepers' Association being successfully carried on in Devonshire. The idea of forming an Association occurred to seven or eight gentlemen some short time since, and others were induced to take an interest in the project. A list of rules was drawn up, which would be submitted to the meeting presently for consideration. They, seemingly, had only touched on a very small portion of Devonshire, and the scheme had all the appearance of success.

The suggested rules were then discussed seriatim, and several minor alterations decided upon. The first rule was to the effect that the Association should be called the Devon and Exeter Bee-keepers' Association. An amendment was moved and carried that the name be altered to the Devon Bee-keepers' Association. A letter was read from Mr. Young, in reply to a communication from the secretary, stating that the County Council would be glad to receive suggestions from the committee with regard to lectures on foul brood. The Council, however, had no power to grant compensation to bee-keepers for stocks destroyed.

The following officers were elected :—President, Colonel Walker ; Hon. Treasurer, Mr. Mark Farrant, jun. ; Hon. Secretary, Mr. H. Tolson. Executive Council: the Rev. F. W. Toms (Combemartin), the Rev. T. W. Adey (Kingsbridge), Messrs. J. W. Jacomb-Hood (Exeter), W. B. Jones (Broadclyst), W. H. Oliver (St. Thomas), F. W. Williams (Exeter), T. H. Burgess (Exeter), — Catford, S. Head (Ivybridge), — Cory (Exeter), and — Godsland (Bovey Tracey). A vote of thanks to the Chairman for presiding and to the Mayor of Exeter for his kindness in placing the Guildhall at the disposal of the Association concluded the meeting.

WEST OF FIFE AND DISTRICT B.K.A.

A NEW ASSOCIATION FOR SCOTLAND.

The bee-keepers of Dunfermline and surrounding district met on Saturday, January 15, at the Kirkgate Temperance Hotel, with the object of forming an association amongst themselves. Hitherto those who took an interest in bee-keeping have been content to remain under the wing of the Dunfermline and West of Fife Horticultural Society, and have their exhibits shown at that society's annual exhibition. This is all to be changed. The bee-keepers have determined to establish themselves as an independent body and have an association of their own, through which mutual assistance will be rendered in the case of disease amongst the bees, and also in furthering apiarian knowledge generally. At the opening of the meeting on Saturday night about a score of enthusiasts, representing various villages in the neighbourhood of Dunfermline, put in an appearance, and this number was augmented by many more ere the meeting was far advanced. Mr. Weston, Dunfermline, was called to the chair, and in his remarks said he thought it was necessary to have an association, by means of which they might get in touch with some grocer of good standing, who could dispose of their produce. Referring to the disease amongst bees, Mr. Weston said if they had an association, they could render assistance to members on whom such a misfortune had fallen. Mr. Reid, who has acted as secretary in the present movement, after reading letters of apology for absence from Mr. A. D. Smith-Sligo, of Inzievar ; Mr. Younger, Valleyfield ; and Mr. Combe, Blair Mains, said he had no doubt the bee-keepers present would have enthusiasm enough to form themselves into an association, and also to make it a success. The question was then put to the meeting whether an association should be formed, when the decision in the affirmative was unanimous. After deciding that the title of the association be as above, the election of office-bearers was next proceeded with. Mr. A. D. Smith-Sligo was appointed honorary president, and Mr. Younger, of Valleyfield, and Mr. Mitchell, of Luscar, vice-presidents—contingent on these gentlemen accepting office. Mr. Weston accepted the office of secretary, while to Mr. Dawson was appointed treasurer. A committee, consisting of two or more representatives from each of the following districts, was then appointed, viz. :—Milnathort, Kelty, Fordel, Saline, Bogside, Torsyburn, Oakley, Carnock, and Dunfermline. The rules of another bee-keepers' association were then read, and after some slight alterations had been made to suit local requirements, also agreed upon. This was all the business, and the meeting concluded in the usual way.—*(Communicated).*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[3152.] January has passed away in a flood of sunshine. I write on the last day of the month, and it has been a beautiful spring-like one, with crocus in full bloom in sheltered spots, and three or four bees in each blossom busily gathering pollen. One of our old neighbours here declares that it was warmer than

during the exceedingly mild winter he remembers fifty-four years ago, "but," he adds, "they had a severe frost later on lasting three weeks;" and another old friend says that the winter, fifty-one years ago, was very mild, although followed by an early harvest. On this occasion reaping began about St. Swithin's-day. A third neighbour, who is of a scientific turn, assures me that the Gulf Stream is 200 miles nearer the coast of Europe than a few years ago, and that we may expect milder winters so long as it runs so much closer to the British Isles.

Those new "cleated" separators I mentioned in my last budget of "Notes" have not yet materialised. I must, therefore, leave any further comment till a future occasion.

Re sugar for bee-feeding, I notice our American friends in *Gleanings* still poke a little fun at us Britishers for clinging to the idea that pure cane sugar is preferable as bee-food to sugar extracted from beet, but so long as the use of pure cane sugar proves so satisfactory as a winter food for my bees, I shall, for one, still continue to use the same. Cakes of soft candy made from it are consumed by my bees in preference to the honey in the combs on which they are clustered. This alone would consider positive proof of the goodness of the artificial food.

Grading Sections.—The subject of grading sections is still discussed in American journals, the latest dodge being grading by photographs of sections—1st, "Fancy;" 2nd, "No. 1;" 3rd, "No. 2;" and the residue below these last in quality are extracted, the empty combs being returned to the bees to clean out, when they are packed carefully away for another year to use as bait-combs. The photo method is the best idea possible, and, if faithfully and honestly carried out, would go a long way towards solving the matter of dealing with wholesale purchasers of section-honey. I have adopted a similar system in grading my section-honey for some years past, but, instead of "Fancy," I call my *best* "Prize Sections," next "Selected," and the next "Seconds." The "Selected" are generally good enough to win at any show, and are equal in colour, quality, and weight to the "Prize;" the only difference is that the outside rows of cells in the "Prize Sections" are better sealed to the wood. I hope this matter will receive attention from our large producers of comb-honey in sections, and that our Editors will give readers a "photo," some time before the honey season opens, to show how—as regards quality and style—sections of comb-honey should be graded for the English market.*

This grading of comb-honey is a very important factor in securing a market, and yet more important in holding a market after it is secured. When a customer places his order with us we must see to it that every section of honey sent out is "up to the mark," whatever that mark may be; if we call it Fancy, or Finest, or First, or Best, there must be no mistake in taking care that sections are of equal quality and uniform in colour. This last condition of *colour* is not obtainable in some districts; therefore sections, though well filled and sealed, will not rank as "Fancy" in a marketable sense, and, if sent to a firm as such, would not fetch so good a price as those of same quality sections (considering weight and sealing equal), yet of a pale straw colour, from a more favoured locality. This, of course, militates against the production of comb-honey in some parts, and the bee-keeper so situated should devote his attention to the production of extracted honey.—W. Woodley, *Beedon, Newbury.*

THE PHILADELPHIA B.K.A.

QUEEN-TRAPS AND SELF-HIVERS.

[3153.] My visit to this country, where I arrived the first week in September, was too late to enable me to see much of bee-keeping, the busiest time being over. Bees were still gathering honey from asters, golden rod, and the numerous fall flowers, which abound in the swamps and low-lying grounds near the rivers. I have met quite a number of bee-keepers, with whom I have had many enjoyable "bee talks."

By the kind invitation of Dr. Townsend, President of the Philadelphia Bee-keepers' Association, I have attended three of their meetings, and spent very pleasant evenings, making the acquaintance of many bee-friends. These meetings are held at the houses of some of the members, and, after the routine business of the meeting, there is a discussion on matters connected with bee-keeping. All seemed well satisfied with the honey harvest they had obtained, and the condition in which the colonies had gone into winter quarters.

Excessive swarming appears to have been one of the troubles of the season, many swarms having been lost. The prevention and controlling of swarms by the use of "queen-traps" was the subject of discussion on one occasion, and several of these traps were brought to the meeting; they were nearly all of the "Alley" type, somewhat modified. The general complaint was that the bees, after swarming, returned to upper part of the trap and clustered there in such numbers that the queen could not be seen. Other strong colonies also clustering in the traps, when the weather was hot, previous to swarming, it was difficult to tell which had swarmed, unless present at the time; the only way they could ascertain was to smoke the bees down, and see if the queen remained. One gentleman present said

* We already had it in mind to procure a few samples of good sections—worked in the coming season—on the old or present plan, and with the new style or "no bee-way" plan, with the cleated separators, for the purpose of comparison. We shall then have a photograph reproduced by the tone-block process for publication in our pages, and it would be useful, in a measure, for grading. But for present purposes where are the sections to come from for photographing?—[Eds.]

he had had success every time, and no trouble with bees in the trap. He attributed this to his having wire cloth in front of the trap instead of excluder zinc, the cones being fixed on wood, bees returning could not get into this part of the trap except through the cones, and this he found they did not do in any numbers, so that on his return home from business, between four and five, he had no difficulty in seeing if the queen was in the trap through the wire cloth. Another point in his trap: the slide in the top instead of being close was of perforated zinc through which the few bees escaped, being cut off from the main body.

A patent was granted to Mr. W. C. Williams, of Missouri, on November 16 last, for a queen and drone trap, and self-hiver. I obtained the specification from Washington for five cents, and afterwards procured one of the traps from the maker, which I took to the meeting, and think it very superior in every respect to the other. In fact, I do not see how it could be improved.

Swarming made Easy with a Queen-trap.—A description of this new queen-trap, and how I think it should be used, will be interesting to many of your readers. The trap is about 4 in. square, and should be the length of the hive, to which it can be attached by the end pieces projecting, so as to clasp the hive, and be there fixed with a small wedge. The trap has an upper and lower chamber, divided by a thin piece of wood, having three holes in it, over which are placed wire cones, and under these is a tin hit-and-miss slide, which opens or closes the way into the upper chamber. The entrance to the hive is through excluder zinc, with which the front is covered. When in position, the slide is pushed to open the cones, so that when the swarm comes off, the queen being unable to get through the zinc, and seeing the light above, goes up through one of the cones. As soon as most of the bees are in the air, the trap must be taken off, and the slide pushed to close the cones. The old hive must now be removed, and a new one put on the old stand. The cage must be inverted and fixed to the hive as before; the upper part, containing the queen, is now at the bottom. There is another slide at the back, which, when removed, opens the whole entrance of the hive, and allows the queen to run in with the returning swarm. The trap now becomes an entrance-guard, and should be allowed to remain on for a few days, until the queen has begun to lay, as in the event of the swarm coming out again, the queen will be prevented from doing so, and in due time the bees will return and settle down. In the event of the bee-keeper having to be from home during the day, a new hive should be prepared and placed in readiness, with the entrance as near as possible to that of the old hive. Any lady, servant, or young person could hive the swarm without the least danger of being stung, as there is nothing to lift. When the swarm comes off, proceed as before, and fix the trap on the new hive upside down, draw out the slide as quickly as possible, then throw a sheet or cloth over the old hive to hide it from view, and the bees returning, see the hive with a trap, through which they swarmed, and go in and join the queen. When the owner returns in the evening, he should move the old hive into its new position.

If no increase is required, fix the trap bottom upwards, draw out the slide, and leave it out during the time swarms are expected. If one comes off, the queen not being able to get out, the bees will soon return to the hive, and run in with the queen. When the first young queen hatches, the old one will kill her, and destroy all the remaining queen-cells.

If it is desired to catch the queen, roll a cloth of any kind round the trap to darken it entirely; at one end of the trap there is a small round slide, stand the trap on the other end, put a queen cage over the hole, remove the slide, and the queen seeing the light, will run up into the cage. She is thus caught without handling. The swarm will return to its home, which will have queen-cells that will soon hatch. The trap must be removed in this case, that the young queen may go out and be mated in due course.

Bee-keepers living in towns using traps of this kind will avoid the unpleasantness frequently arising from having to hive swarms in their neighbours' gardens. Swarms in difficult places, and the loss of swarms altogether, may be avoided if queen-traps of this kind are used. The price retail is 4s. out here.

All well, I hope to return to England the beginning of April. Wishing all bee-friends a happy and prosperous year.—JOHN M. HOOKER, *Chestnut-street, Philadelphia, U.S.A., January* 15, 1898.

(*Correspondence continued on page* 46).

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

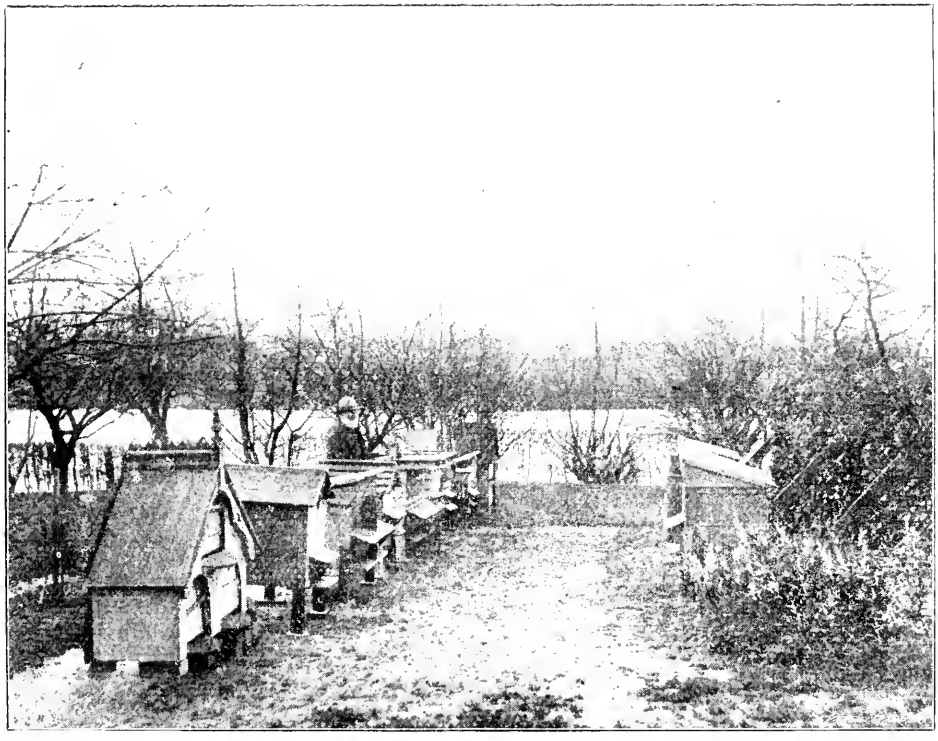
The apiary depicted on page 45, belonging to Mr. Joseph Parker, is situate midway between the respective towns of Crewe and Sandbach, Cheshire, about three miles distant from each place. The frame-hives (sixteen in number, with stands or sheds to accommodate about ten skeps) are located in the orchard attached to the owner's house, which latter stands by itself in a three-acre field close by. As will be observed, there is no attempt at uniformity in the hives, as regards outward appearance, several of the small bee-houses accommodating several stocks in each. The river-like expanse of water in background is, we learn, an impounded lake, twelve acres in extent, known as Winterley Pool, and utilised as water-power for driving a corn-mill in the village.

Mr. Parker—who is seen in the picture—in sending a few particulars descriptive of his surroundings, says:—"The situation of my

apiary I regard as an ideal one for bee-pasturage. I am only a mile from Haslington Hall, surrounded by a fine park in which white clover abounds. Then, within a mile and a half, there is Crewe Hall, the Cheshire seat of the Earl of Crewe. On this extensive estate are numerous lime trees, and here also white clover grows plentifully ; and all being within my free pasturage grounds, the bees do not suffer from lack of forage."

Referring to his bee-keeping experiences, Mr. Parker further writes : "I commenced in the year 1882 by purchasing a swarm from a neighbouring farmer, and this swarm has been with two others aged respectively nine and seven years. The oldest of these three has yielded an average of from 60 lb. to 70 lb. of honey per year since 1885, and in addition a swarm at intervals of three and four years, and now appears in the pink of condition." Then, he adds, "Another gave me a total of 102 lb. of surplus last year."

Returns of this substantial kind shows that bee-keeping can be successfully carried on by those who have no liking for what is called manipulating or handling bees, which entails risk of stings. Nor does Mr. Parker fail to make his "hobby" yield him profit as well as



MR. JAS. PARKER'S APIARY, WINTERLEY, CHESHIRE.

the parent of all my present colonies of bees. Sixteen of these are in frame hives, the rest in skeps, a few of which I still keep for swarms. My frame-hives seldom swarm, mainly, I think, because of being supered early in the season. "Not being,"—as he tells us—"an up-to-date expert," Mr. Parker does little meddling with his bees, for meddling sake. Nor does he "do any re-queening or jobs of that sort, preferring to leave such operations to the bees themselves." In fact so "severely alone" does he leave the latter in this respect that he "now has a stock which was a swarm hived in 1885, and thus over twelve years old, pleasure. He says : "It yields me over twenty pounds a year, and pleasure besides." In concluding the few notes sent on, referring to Mrs. Parker he says : "I must pay a bee-tribute to the ladies ; the old adage as to the 'grey mare being the better horse' stands good at this establishment ; mine is the back-bone of the business ; she does all the extracting and preparing the honey for sale. Nor have we any difficulty in disposing of it at one shilling per 1-lb. jar."

We trust our friends may long enjoy their bee-keeping, and continue to be successful bee-keepers for many years to come.

CORRESPONDENCE.

(*Continued from page* 44.)

APICULTURAL NOTES.

COMB-FOUNDATION.

[3154.] During the past twenty years we have used in this country many different kinds of comb-foundation, some of which has proved a success, and some a dead failure; the latter resulting in serious loss to the bee-keeper. A great change has, however, taken place in the manufacture of this valuable and indispensable aid to modern apiculture, and the present result is that foundations can now be bought of a very different nature, and quite superior to anything previously obtainable. In fact, it seems to me safe to say that foundation made on the latest and most approved principles is so near perfection that the man who undertakes to improve upon it sets himself a very big task. This being so, I take leave to say that the bee-keeper who now uses foundation which brings about loss and disappointment has but himself to blame. It is indeed a boon, that all should appreciate, to be able to get a foundation which, in the first place, the bees will readily take to, and which, in the second place, can be trusted under all sorts of conditions to bear every reasonable strain with no fear of it breaking down. The only addition to this boon that I wish for—and it will be shared by many who, like myself, use foundation in quantity—is a reasonable reduction in price. The cost of foundation to the bee-keeper of to-day is much greater than we had to pay ten years ago. This, taken by itself, is not such a serious matter, because we now get a better article for our money. But the "seriousness" comes in when we think of the decline in prices during the subsequent years. Ten years ago we got for a couple of pounds of honey more than would cover the cost of a pound of foundation. To-day, if the bee-keeper has to sell his honey wholesale, and buy his foundation retail, he finds that it takes the value of about four pounds of first-class quality honey to pay for a pound of foundation. While if he is so unfortunate as to be located where honey of the highest quality cannot be had, it will take five or six pounds to pay for the said pound of foundation. This, as I have said, is a very serious matter to the honey producer, which it is hoped will be taken into account when the primary cost of setting up the expensive machinery needed for the most improved methods of production has been recouped by enterprising manufacturers. In the meantime it behoves all who keep bees for profit to effect a saving by using foundation more sparingly, or more judiciously. There is no doubt, to my mind, the indiscriminate use of foundation is a loss to the bee-keeper, in more ways than one. But how to discriminate is a difficulty not easily overcome. If we hive a swarm on "starters" and the atmospheric conditions are favourable for three weeks or a month following, that swarm will give as good result, and perhaps better, than if hived on full sheets of foundation. But if unfavourable weather follows the hiving of a swarm on "starters," then we are put to a lot of trouble and expense in feeding, much of which might have been saved if full sheets had been used. Thus what we save on the one hand may be more than lost on the other, and when it becomes a question of choosing between two evils, the difficulty is to know which is the greater. One of the main objections to the use of "starters" for swarms is the risk of getting a lot of useless drone comb. It has often puzzled me why some swarms should build a lot of drone comb, while others under seemingly similar conditions build hardly any. A big flow of honey no doubt leads to the building of drone comb; but perhaps that is only a secondary cause. From experiments made last summer I found that swarms, that were headed with young queens and hived on starters, built worker combs as completely as if full sheets of foundation had been used; but with queens of doubtful age, a large portion of drone comb was built. It thus appears that the only reliable way of getting worker comb built from starters is to have none but young queens. Whether further observation will strengthen or upset this theory remains to be seen. In the meantime it would be interesting to hear if any other bee-keeper has made any observations on the matter, and with what result.—ALLEN SHARP, *Brampton, Huntingdon, January* 31.

DERBYSHIRE NOTES.

[3155.] *Seasonable Work.*— Bee-keeping out of doors is now practically at a standstill, and the best way of managing bees at this time of the year, if stores are ample and quilts are dry, is to leave them to manage themselves; but now is the time when the bee-man should prepare for the future. How many of your readers can honestly say that they were fully prepared for last year's honey-flow? I was not, and I know others who were in the same predicament; and I dare say most of our appliance-makers could tell us of orders required by return of post for goods that might well have been supplied months before, if only the bee-keeper would look to the future early. Now, the question is, "What will a bee-keeper require for each hive?" The answer will not require an extensive knowledge of mathematics to work out. Sufficient standard frames filled with comb or wired foundation to make up a total of eleven for each hive, and two crates of shallow frames filled with comb or foundation, or two racks of sections. I find it a good plan to work standard size frames on a hive or two for extracting. These are filled with full sheets, and at the end of the season I have some beautiful white combs for driven bees, or for replacing the old black

pollen-clogged combs in the spring. If the hive-roofs are not deep enough to take a box of deep as well as a box of shallow frames, an additional eke may be provided. The above is the smallest stock that an up-to-date bee-man can do with; a few additional crates will, perhaps, be found useful, and spare hives for possible swarms should not be forgotten.

Boxes filled with shallow-frames of comb will now pay for a general looking-up. In going through my stock last week I found a large hole nibbled out of four combs in one of the boxes and the cavity filled with a nicely-constructed nest made with raffia fibre stolen from a bundle hanging in the garden arbour where the appliances are kept. I thought the boxes were mouse-proof, but evidently mistress mouse found that such was not the case. I was sorry to upset the domestic arrangements even of a mouse, but the combs are intended for bees, not for the "small deer" in question; however, by way of compensation, I have placed a nice little house made of wood and wire, with a spring door and a larder hung with a piece of bacon that the mouse may use instead of the comb-box if she feels disposed.

A few weeks ago a reader complained of having had a "Porter" escape choked with dead bees. I had the same thing occur on one occasion last year. I found out that it was caused by the crate not being bee-proof at the top; robber bees managed to get under the quilt, but were killed in trying to get through the escape to the lower part of the hive, thus choking up the escape.—F. C., *Derby*.

"ROYAL" SHOW, 1898.

THE PRIZE LIST.

[3156.] The list of prizes for honey and apiarian etceteras, for the forthcoming meeting of the Royal Agricultural Society at Birmingham, which appears in the B.J. of January 13, impressed me as being the poorest prize list ever issued by the B.B.K.A., either for its own shows, or in connection with another society. I withheld my pen last week, hoping some one able to speak with more force would refer to this matter. And I am glad that Mr. H. W. Seymour has done so on page 24, and some one who signs himself "Robin Hood" (why not give name instead of *nom de plume?*), on page 36, last week. My opinion is that an exhibitor, while staging the best of his produce—with the intention of winning a prize, if possible, and to get some return for the trouble and expense involved—should make it his first aim and object to show visitors or onlookers what first-class honey is like. It is only by educating the public in the good qualities of British honey that we can hope to produce in this country and sell at a profit the tons of honey that we now import. The Finance Committee of the B.B.K.A. may plead want of funds, but I am afraid they will lose more money by reducing the value of the prizes than if they had increased them both in number and value.—Wm. Loveday, *Hatfield Heath, Essex, January 24.*

BEE-KEEPING.

HOW TO ACHIEVE SUCCESS.

[3157.] It is very common to hear some one say: "Oh, I am going to do so-and-so." Then, without further ado, straightway set about the business, whatever it may be. They never think of weighing the *pros* and *cons* in connection with the subject with which it is proposed to deal. One is "going in" for poultry; another intends to start some phase of gardening as a special pursuit, tomato growing, for instance, is a favourite notion. Not long ago carnation culture became almost a mania with many well intentioned enthusiasts imbued with these various rural pastimes or hobbies. Looking back, and remembering the number I can call to mind who have tried various schemes having for their object the attainment of surplus wealth, the question is forced on one's mind: where are they now? Where are the fortunes sure to be made from the new methods hitherto hidden in obscurity, and which were to fill the pockets of the fortunate discoverers? Where! I know not; but it is very plain that the majority began at the wrong end. They began business first, and then found out how small was their knowledge of the trade in which they had embarked. It is one thing to keep a few fowls in our house garden, or to grow a few plants especially well in our miniature greenhouse, but it is an entirely different concern when these matters are taken in hand on a larger scale, for the express purposes of profit and profit only. Then the burden of the work is *felt*, and must be charged for as labour; and thus the pleasure goes, while profit is tardy in putting in an appearance. Eventually the thing is thrown up because "it doesn't pay." Fortunately the subject of bee-keeping, with which I propose briefly to deal, is—thanks to the nature of the pursuit, and to the sound, cheap bee literature, technical and practical, which is available to all—on a somewhat different footing; but the idea that a fortune can be made by keeping bees is a thing of the past. On the other hand, it has been clearly proved that—taking an average of years, and carried on in a suitable district—bee-keeping is a sound, profitable, and health-giving vocation. Of course, to be successful, it must be pursued intelligently and with proper care and attention, just as every other outdoor pursuit; but on its merits alone apiculture bids fair to become one of the most popular of our minor rural industries. Hundreds are joining our ranks annually. Some will, no doubt, fail, for the reasons above mentioned, just as others will succeed; and the latter will do so by

working on proper lines, and not attempting or expecting too much.

Adaptability for Bee-keeping.—This is a point for serious consideration. Some, for reasons difficult to define, are better adapted to the work of managing bees than others, and natural aptness for handling insects—which to many are but a source of dread from their stings—is more than half the battle; but there are few who are willing to give their energies to making a trial that cannot well take up the matter with advantage. The first essential to success, then, is the study of one or two good works on the subject; and having mastered the important details as far as possible, it will be found that some things therein will to most still require the elucidation which can only come from either ocular demonstration or experience. If there is a bee-man of repute in his neighbourhood, the beginner should endeavour to get an interview, and explain his doubts and difficulties. It is surprising how easily what are to him riddles may be solved. If, however, there is no such friend available, the next resource is the query column. Write to the BEE JOURNAL, or beginners' column in *Record*. Lay your troubles before the Editors, who will give all the help in their power, I know. Having by this means cleared the ground, so to speak, it is then time to think of putting the knowledge gained into practice. Beginners with bees should never ignore the old adage, "Make Haste Slowly." Buy one, or preferably two, colonies of bees; don't take more than two, be they ever so cheap, while the disadvantage of beginning with a single stock is risk of accident to it and loss of valuable time in consequence. With two hives, however, everything that is useful in practice may be done. Be content to accept the facts as stated in your text-book until you are able to prove conclusively that they are otherwise. Do not commence out of season or failure will probably follow; April I consider the best month to begin, just when the fruit trees are breaking into bloom, and the spring flowers are at their best. Honey is gathered in varying degrees then and pollen, the life of the young larvæ, is abundant. Bees moved in April seldom take any harm, while the change to a fresh district is often most beneficial. Bees also travel well then, and should any unfortunate mishap to the queen occur another can be raised by the bees themselves without serious loss; while at some seasons loss of the queen means ruin to the stock.

What Kind of Bees to Keep.—This is the next point for consideration. Some prefer our native bees, others hanker after foreign races, while a third go in for hybrids. After keeping nearly all sorts my own predilection is for the latter. No pure-bred bee—in my opinion—equals for all round good qualities a first-cross between our native brown bee and the Ligurian or Italian variety. Carniolans, though good-tempered and quiet to handle, are excessive swarmers. The Ligurian, when pure, is also easy to manipulate, but most other foreign races of bees are of bad or uncertain temper, and should not be tolerated when we have a superior article at home. British or native bees are hard to beat in many respects, though when crossed with the Carniolan they develop the troublesome habit of excessive swarming. This undesirable quality is much reduced when our natives are crossed with the Ligurian.

Buying bees requires some care; on no account purchase stocks in frames unless they are guaranteed in writing to be healthy. If this is done, and the bees turn out diseased, a remedy is to hand; but my advice is, buy no second-hand hives. New ones can be bought at a cheap rate, and no risk is run. Swarms are safe to purchase, and give a good return the first season if early and of good size—say, from 5 lb. to 7 lb. in weight.—HENRY W. BRICE.

(*To be continued.*)

Queries and Replies.

[1904.] *Bees Working on Laurel Leaves.*—In passing through a nursery one day last spring I noticed bees working busily on a large area of young laurels. They made such a noise as to make me fancy it was a stray swarm. On observing the bees closely I found they were visiting the underside of the young leaves, and on examining the latter I could see on each side of the mid-rib of the leaf there were small holes, from which the sap oozed out as clear as water, which the bees dipped up and carried off. They were there every bee-day during the summer, and continued at work on the leaves even when limes and clover were in bloom. During September and October the bees were joined by wasps and blue-bottle flies in carrying off the sweet spoils. What use do they make of this?—C. Y., *Dunham Valley, Cheshire.*

REPLY. — The sweet juice yielded as described above is used as food by bees, just as is the nectar of flowers, *i.e.*, honey.

[1905.] *Removing Combs Built to Bottom Bars of Frames.*—Last autumn I purchased a stock hive of bees. The floor-board is made like a shallow box without a lid—the rim or sides being 3 in. deep—with an entrance into it, thus making two entrances into the hive, one just above the other. This seems to show that the floor-board was put on the wrong way up, as the bottom of the floor-board now is about 4 in. lower than the level of the frames. And the mischief is, the bees have filled this space with comb, &c., and have fastened the frames to it. As I wish to make frames of the

hive movable, what would you advise me to do with it?—F. E. G., *South Ealing, January* 28.

REPLY.—The only course is to sever the comb attachments (since there are such) from the floor by drawing a wire between the lower edge of hive, as it now stands, and the floor. Then lift the frames out one by one and cut away the combs from bottom bars before setting the "box-floor" right side up. It need not be a difficult task if a little smoke is used to keep the bees quiet. Do not operate, however, till the weather is warmer.

[1096.] *Wide Frames for Surplus Chambers.*—I was thinking of trying a super of shallow-frames made half an inch wider than the ordinary ones. Would it not assist the bees in drawing out the combs, and also help to keep up the temperature of the hive? Do you know of any objection to such a trial?—C. Y., *Dunham Valley.*

REPLY.—Wide frames for surplus chambers are now supplied by all appliance dealers, but the extra width is only applied to shallow-frames. There are also wide metal-ends made expressly to suit such frames. Please refer also to reply—on page 26 of our issue for January 20—to Fredk. P. Smith.

[1097.] *Brood Foundation for Surplus Chambers.*—Some little time back, on looking over my stock of implements prior to ordering for the coming season, I rendered down the surplus wax from my six hives, and sent it to be worked into brood foundation. Now I find I shall have considerably more foundation than I shall use in brood-chambers this year. 1. Can I utilise same in shallow frame supers (for extracting purposes)? 2. Will it interfere in any way with the quality of honey extracted? 3. Will the bees take to it and work it as readily as the super foundation? I should use the proper super foundation for the sections.—W. A. C., *Erdington, Birmingham, January* 29.

REPLY.—1. Brood foundation is the proper kind to use for shallow combs worked for extracted honey. The lighter or thinner super foundation would not do at all well for this purpose. 2. Not a bit. 3. Quite as readily.

Echoes from the Hives.

Llanberis, North Wales, January 22.—The weather here, though damp and a bit foggy, is unusually mild. Yesterday, the thermometer was:—max. 51 deg., min. 43 deg. Seeing my bees on several days past carrying in pollen, I thought it rather exceptional until I noticed in your issue of the 20th ult. correspondence to the same effect.—J. M. A.

STRONG COLONIES.

I was highly interested in your editorial remarks in the August 1 issue on the advantages of big colonies; also in regard to "getting bees started in sections," and to "bees hanging out;" and, with your consent, I will give to your readers some of my ideas along these same lines.

"Strong colonies" has always been one of my hobbies; and while producing extracted honey in Wisconsin I secured them by using a two-story 8-frame hive for a brood-nest, and was troubled very little with swarming; but since coming to Colorado, and producing comb honey exclusively, I find that, while colonies in 8-frame hives may be a little more prone to swarming, as good results may be obtained with this hive as with any other if the colony is so managed that the 8-frames are used for breeding only, instead of for storing surplus.

I find that, early in the spring, the queens (none but prolific ones are allowed to live) will stake off and occupy the room they need, and increase the area of brood as the strength and warmth of the colony require. Then, while every condition is on the ascending scale, when the brood is clear up to the top-bars, is just the time to put on the first super, the next super being put on when the same condition is reached again, never allowing the bees to quite reach the zenith of their ambition.

As a proof that there is scarcely any limit to strong colonies so managed, I will say that I have five colonies (four of which did not swarm, and one that was made by uniting two first swarms) among my bees, and they are now working in their eighth super, or forty supers for the five colonies.

In this apiary are 117 colonies, about forty of which have a 10-frame capacity. Now, isn't it provoking that only one of the five is a 10-framer, and four of them just the common 8-frame dovetailed hives? But you know, Josh Billings said, "Never argy agin success," so I won't; but you may if you want to.

But if a colony gets a lot of sealed honey between the brood and top-bars, and gets the corners and sides of the hive well stored with sealed honey, and has been given so small an entrance that it has *compelled* them to learn to hang out, you may put on supers, give "bait sections," uncap honey, &c., but they won't prosper. You know Billings said, "If a man gits a start down hill, it seems as if the whole world is greased for the occasion;" and the colony mentioned above seems to be in the same condition, although Nature's storehouse is running over with sweetness. The only way I can successfully break the habit is to exchange this colony's super for one from a colony that has a super well occupied with comb-builders who will teach them by example that there is something in this world to do.

While travelling among the bee-keepers in the capacity of foul brood inspector, I am often asked this question : "Gill, why do my bees hang out so?" and upon examination I find the bottoms nailed on tight, and the entrance-blocks turned the long way, and nailed to the entrance, and the hive standing out in the hot sun, with no shade whatever. Why should any sane man ask such a question, under those conditions? Why, I had rather set a hive up on stilts, and take the bottom clear off; and I sometimes do, for I go after my bees with mighty heroic treatment occasionally in order to break up these habits, for bees are not unlike us men who know it is very hard to leave off ruinous and bad habits when once they are well formed.

Other people say to me, "I wish you would tell me why my bees *won't* go into the supers?" and, on inquiry, I find that a colony in an 8-frame hive has been allowed to swarm, perhaps, three times; the first swarm has been allowed to get into that clogged condition above mentioned, the parent colony has not yet rallied from the drain upon it, and the other two swarms are not yet strong enough to go above. As Edwin Bevins says in the last issue of the *American Bee Journal*, "Another fool question. Why do people expect bees to occupy supers until the conditions in the brood-nest and the strength of the colony warrant it?" All such men should follow the advice of Moses Quinby, when he says, "Confine your experience to pecks of bees instead of pints." Years ago I did a great deal of dividing, but must say that doubling up gives me more satisfaction.

I will give you a glimpse of one end of my Crescent apiary, situated away over on this side of the Rockies, on the border of the desert. We have a plant growing about as high as a man's shoulders, when in full bloom. It is cleome, or the so-called Rocky Mountain bee-plant, of which there are acres and acres made to grow by the sub-irrigation from Grand River, that flows only about twenty rods to the right of my bee-location.

On the left, out through the opening in the timber, commencing within a quarter of a mile, are the farming and fruit lands, under a fine system of irrigation, among which are hundreds—yes, thousands—of acres of alfalfa!

The bees in this place do finely. Another apiary, in the direction of the opening in the timber, and only four miles away, is doing and has done poorly during the entire season, while my third apiary, 117 colonies, out in the foot-hills, fifteen miles from here, have increased from fifty-eight to 117, and will give 200 24-lb. cases of comb honey this season. I bought them just at the close of the swarming season, or, perhaps, there would not have been so many.

To give you an idea of the resources of this valley that has been redeemed from the desert in the last fourteen years, I will say that the railroad estimate that there will be shipped from this county 1,000 carloads of fruit this season.

While I shall always have a kindly remembrance for old Wisconsin, I have no desire to exchange this glorious climate and my wife's health for the rigours of a Wisconsin winter.—M. A. GILL, in *Gleanings* (American).

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

SAXON (Llanberis).—*Bee Flowers and Plants.*—A correspondent, writing under the above *nom de plume*, writes :—"May I be allowed to proffer a request to your esteemed correspondent 'Lordswood,' asking him for the names of a few flowers and plants (perennials preferred), together with, say, half a dozen flowering shrubs known to be favourites with bees? In this connection I may say everybody couples *thyme* with honey, but I have not observed any profusion of blossom on this plant as grown in our best gardens; and I am therefore wondering what kind of thyme is there referred to? Our good friend 'Lordswood,' however, is sure to know; at least I, for one, think he does. We bee-keepers are taught that fertilisation is brought about by bees; should we not, then, note what flowers require the help of the genera apis in order to prolong their very existence?" We will invite the attention of the gentleman whose *nom de plume* is referred to, and join in the request of "Saxon" for a word of reply to the request contained in the above communication.

"B" (Newport).—*Bees in a Block of Stone.*—We hope you will take the further trouble of placing your view of the matter referred to before the editor of the paper from which the cutting was taken. If this is done, and the mistake admitted, we will be glad to publish the correction in our columns, and thank you very much for settling the question in that way.

L. COLLINGE.—*Helping Beginners.*—We have forwarded your name, &c., to the gentleman named, and have no doubt he will communicate with you.

(Several Letters and Queries are in type and will appear next week.)

Editorial, Notices, &c.

MAKING HEADWAY.

COUNTY COUNCILS AND BEE-KEEPING.

The year is now but six weeks old, and yet some hopeful signs are already apparent as giving promise of its being one of marked activity and advancement in matters connected with bee-keeping. Nor is the evidence of this far to seek. On the first page of our last issue are reports of meetings sufficiently encouraging to warrant the assumption that various County Councils—until recently somewhat disposed to look askance at appeals for help coming from bee-keepers—now regard with more favour proposals from the same source, and are ready to recognise the importance of adding bee-culture as a subject for technical instruction in rural districts. Nor shall we be far wrong in venturing to say the day is not distant which will see a further acceptance of the justice of our contention, that sums voted as "grants in aid of technical instruction" may, in the case of bee-keeping, be applied to—or in co-operation with—the work done in this direction by the numerous bee associations now established throughout the kingdom. The acceptance of this proposal—in principle at least—is to our mind of such paramount importance, in view of making the ultimate results entirely satisfactory, that it is difficult to discover any valid objection to it, or to say why it should not meet with general approval. In support of this view let us take a representative instance where the County the Council and County Bee-keepers' Association labour conjointly in furthering technical education with regard to bee-keeping. The case we have in mind is not an imaginary one, and the County Council in question has six representatives on the Executive Council of the Bee-keeper's Association. The more important body thus secures adequate and direct control of all sums disbursed from the public funds voted in aid of bee-keeping instruction, and the work connected therewith. Not only so, but County Councillors thus become acquainted with, and appreciate, the useful voluntary labours of those anxious to promote bee-keeping as a rural industry capable of conferring benefits on a class sadly needing help. And when we are able to say that this dual control has yielded the most satisfactory results from the County Council point of view—*i.e.*, getting full value for the financial assistance given—it seems but reasonable to ask for a further extension of the work on similar lines.

In weighing dispassionately the peculiar—indeed, almost unique—position bee-culture holds among the minor rural industries of the country, and taking into account the extremely rare instances where even so many as one or two members of a County Council personally know or care anything about bees, it appears to us obviously necessary to enlist just such help as can only be afforded by an association whose membership includes a large proportion of the bee-masters and experts in the craft dwelling in the county. And we maintain that such voluntary help as practical experience alone can afford should be welcomed as of the highest value to all the interests concerned.

It is also an unmistakable sign of the inherent vitality of the bee-keeping industry to note the success attending the efforts made in several instances to resuscitate—or to rehabilitate, as the case may be—bee-keepers' associations, which, from various causes, have either died out altogether from inanition or become moribund from lack of the active effort necessary to keep them fully alive. Among these we may mention the *re*-formed Surrey B.K.A., now one of the most actively useful associations in the country, with a membership nearly reaching 350. Then there is the adjoining county of Sussex, whose bee-keepers have been for several years past unorganised and—as regards associated effort—uncared for since the original association fell away and practically ceased to exist ten or eleven years ago. Recognising the anomaly of so good a bee-county as Sussex being without an association, the Kent B.K.A. only a year ago formulated and gave practical effect to a scheme for working Kent and Sussex as a dual county association. The result is that over 150 Sussex bee-keepers joined the Kent and Sussex B.K.A., which now has a membership of 624. A third case in point is the just

re-formed Devon B.K.A., whose first meeting was reported on page 41 last week. Judging by the names among those taking a leading part in this latest movement, there is an excellent prospect of our seeing a new and successful association rising phœnix-like from the ashes of the original Devon and Exeter B.K.A., which suspended active operations at the beginning of 1890. Anyway, the re-awakening seems to be thorough and complete, while the many influential and leading residents in the county who took part in the meeting referred to will inspire the utmost confidence as to the ultimate success of the undertaking.

The chairman of the meeting (Colonel Walker), who has, we are more than pleased to see, consented to become president of the association, is himself an enthusiastic and experienced practical bee-keeper, whose contributions to our pages under a familiar *nom de plume* are highly valued by readers and ourselves. Moreover, he does not believe in doing things by halves, and, although resident some distance away from Exeter, which will of necessity be the headquarters of the association, we may be sure the Colonel will bring the full weight of his position and influence in the county to the general advantage of bee-keeping in Devon. Mr. J. W. Jacomb-Hood, too —whose removal further west has been Surrey's loss and Devon's gain in a bee-keeping sense—has, we read, pluckily offered his share of the important and real work in prospect by undertaking the duties of honorary expert for the first year, in addition to a place on the Executive Council, where his known administrative abilities will be most useful. Of the hon. sec., Mr. Tolson, we learn that he is full of energy and work, a trait of character for which there is full scope in the post he has undertaken; and among the other gentlemen whose names appear on the Executive Council are several well-known bee-keepers of experience. With so much of promise for the future, it should need no more than to remind Devon bee-keepers that their first duty should be to cordially support the new movement by at once joining the association, and inducing others to do so. The address of the hon. sec. (Mr. H. Tolson) is Park House, St. Thomas, Exeter.

Another move forward is that of the Shropshire County Council, who have this year arranged for a series of lectures on bees and bee-keeping in different parts of the county (*vide* page 41 of our last issue). The fact of the first course of six lectures being delivered in connection with the recently-formed Wellington and District Bee-keepers' Association tends to show that the influence of the "new blood" infused into the bee-work of the district is already being felt in the County Council concerned, and it seems quite certain that where good and tangible results are shown, a reasonable and fair share of the sums available from the public funds for technical instruction will be allocated to the purpose of teaching bee-keeping and furthering the bee industry generally. Nor is there any valid reason for doubting that, as time goes on, and further experience is gained, the various county bee-keepers' associations will eventually be allowed to take a proper and useful share in advising as to the most advantageous way in which grants in aid of technical instruction in bee-keeping may be applied to serve the end in view.

BRITISH BEE-KEEPERS' ASSOCIATION.

THE monthly meeting of the Council was held at 105, Jermyn-street, S.W., on Friday, February 4. Present: Mr. E. D. Till (in the chair), Messrs. R. T. Andrews, W. Broughton Carr, W. H. Harris, J. H. New, T. J. Weston, and the Secretary.

The minutes of the previous meeting were read and confirmed. Mr. Chas. Pinnick, 23, First-avenue, Bush Hill Park, Enfield, was duly elected as a member of the Association.

Mr. T. J. Weston presented the report of the Finance Committee for the month ending January 31, together with the statement of accounts for 1897. The report was accepted, subject to the customary audit.

The Education Committee's report in regard to the rules and regulations governing the Association's Examinations for Expert Certificates was brought forward for consideration by the Council, and unanimously adopted on the motion of Mr. Till, seconded by Mr. T. J. Weston. (The full text of the "Instructions to Candidates" appears on next page.)

A resolution "that the number of members of the Council be increased from fifteen to twenty-one" was approved, and will be submitted for endorsement by the General Meeting of members, which it was decided should be held on Thursday, March 17, and be followed by a conversazione of members.

The Council learned with satisfaction that the Executive of the Warwickshire Bee-Keepers' Association had agreed to co-operate with the "British" in promoting the success of the bee department of the "Royal" Show to be held at Birmingham in June next.

EXAMINATIONS.

Certificates of Proficiency in Apiculture are awarded by the British Bee-Keepers' Association as follows :—

Third Class.—Candidates for third-class certificates will be examined in their own counties, or elsewhere (provided expenses are guaranteed) between May 1 and September 30 in each year. Notice of their intention to present themselves for examination must be given, as early in the year as possible, to the Secretary of their Association, or to the Secretary of the B.B.K.A.

Second Class.—This examination is open to those already holding third-class certificates. It consists entirely of paper work, and is held during the autumn months at various centres.

First Class.—This examination is open to those already holding second-class certificates, and is held in London early in each year.

Fees.—Third-class examination, 5s. ; second class, 10s. ; first class, 21s. Non-members of the "British" or its affiliated Associations will be charged double fees. Half-fees will will be charged to unsuccessful candidates presenting themselves for re-examination. The fees must in all cases be prepaid.

Candidates shall supply satisfactory testimonials of character. A form for this purpose may be obtained on application to the Secretary of the British Bee-Keepers' Association.

Certificates shall be liable to be forfeited on proof of dishonesty, inefficiency, or misconduct, and of the sufficiency of such proof the Council of the British Bee-Keepers' Association shall be the sole judge.

Instructions to Candidates for Third-Class Certificates.

The examination will consist of :—

1. The manipulation of skeps :—Driving out the bees of a full stock without injury to the combs ; detecting and catching the queen during her ascent ; placing her in a box without injury, and returning the driven bees to their former hive.

2. The manipulation of a stocked frame-hive :—Carefully withdrawing and returning such frames as may be necessary for finding and pointing out the queen to the examiner ; turning a frame bottom bar upwards ; then reversing it and returning it to the hive.

Special account will be taken of the neatness, quickness, and quietness with which the operations are performed, together with the manner of subduing the bees, and of the amount of disturbance caused thereby. Veils may be worn, but no protection to the hands will be allowed.

3. Oral questions relating to elementary knowledge of (*a*) the classification and natural history of the honey-bee ; (*b*) healthy and unhealthy conditions of stocks ; (*c*) the recognition and treatment of diseases ; (*d*) old-fashioned and modern methods of bee-keeping ; (*e*) construction of frame-hives, "standard" and other frames, section-racks, &c. ; (*f*) various means of securing surplus honey ; (*g*) the most important points in the management of an apiary at different seasons of the year.

4. At the discretion of the examiner, evidence may be required of a practical acquaintance with the appearances of frames in various conditions of soundness or disease.

NOTE.—The time occupied by each candidate for Third-Class Certificate may extend to one and a-half hours.

For Second-Class Certificates.

Evidence of a fair education is requisite.

The subjects of examination will include :—

1. Natural history of the honey-bee.

2. Its anatomy and physiology, including transformations (egg, larva, pupa, and imago stages, &c.) and characteristics of queens, drones, and workers.

3. Products of bees :—Their origin, uses, qualities, and commercial values.

4. Swarming :—Its causes, objects, methods, and varieties (natural and artificial), with explanation of operations, means of prevention, &c.

5. The apiary :—Its establishment and management, inclusive of various types of hives, houses, varieties of bees most desirable ; economy, purchasing, &c. ; transferring, feeding and feeders ; increasing colonies, nuclei, dividing, doubling ; queen-rearing, various cages for, and methods of queen introduction.

6. Handling or manipulating bees :—Full description of various methods.

7. Wintering bees :—Various systems, both at home and abroad, with their advantages or disadvantages.

8. Difficulties of bee-keeping :—Robbing, diseases, remedies, enemies, &c., with special practical tests as to acquaintance with foul-brood (bee-pest) in all its aspects, stages, and bearings.

9. Calendar of operations for each month of the year, with any terse axioms for general success.

10. Extractors (Honey and Wax) :—Varieties, uses, and modes of working.

11. Varieties of smokers and other appliances used in subduing bees.

12. Comb-foundation :—Varieties of, and methods of fixing in brood-frames and supers or sections of all kinds ; machines for making, &c.

13. Honey-plants and trees, or bee-flora :—Most valuable kinds and seasons of blooming.

For First-class Certificates.

Evidence of a good general education is requisite.

1. Candidates will be subjected to somewhat

severe tests in any or all of the subjects detailed for the second-class examination.

2. They will be required to show a satisfactory acquaintance with the best literature on bees and bee-keeping.

3. They must deliver before the examiners or the Council of the B.B.K.A. a lecture, extending to a quarter of an hour, on some subject connected with apiculture, and prescribed at the time by the examiners. Five minutes will be given for thinking over the topic, and (if desired) for making outline notes.

4. Candidates may have to submit to an oral examination on any matter connected with bees and bee-keeping, as well as to any practical test of their knowledge and ability considered necessary by the examiners.

Among the books recommended for study are "Modern Bee-keeping," 7d.; Cowan's "British Bee-keepers' Guide Book," paper covers, 1s. 8d.; Cowan's "Honey Bee," 2s. 8½d.; all post free at the prices named; and "Root's ABC of Bee-culture," 5s. 6d., post free.

Further information respecting the Examinations may be had upon application to the Secretary of the British Bee-keepers' Association, Edwin H. Young, 12, Hanover-square, London, W.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

BRITISH *v.* AMERICAN BEE-KEEPING.

[3158.] Messrs. Editors, on page 2 of your first issue for 1898, you appeal to American and German bee-keepers to confirm your statement that British bee-keepers have little to learn as to bee-management from their friends abroad. I suppose it's a common thing for British bee-keepers to think there's nothing to be learned about bee-keeping outside their own island, and I know it's quite common for Americans to think there isn't enough to be learned across the water to pay for wetting their feet by wading across. I really believe both are fooled. I think if you were to be turned loose among the bee-keepers of this country you'd get many a hint of value, and if I could spend some time among English bee-keepers I'm sure I'd bring away a lot of information with me.

Why, don't you know there are a good many things in which there is a practical difference, both in appliances and management? Some of the difference may be accounted for by the different conditions, but many cannot. Now, when you and I differ as to appliances or management, as no doubt we do, if we were to get together long enough don't you suppose each would learn something from the other? I don't believe either of us is so pig-headed that we wouldn't be willing to change if we saw the other had something better. Why, bless your heart, I look eagerly through the pages of the B.B.J. every week to find something new, and I think of more than one of you Britishers as a personal friend I'd be delighted to meet.

Now please don't talk that way any more. You see, we expect to keep on learning from you, and it makes us feel that it's just a bit like stealing if we can give you back nothing in return.—Yours till you say something bad again, C. C. Miller, *Marengo, Ill., U.S.A., January* 22, 1898.

[Dear Dr. Miller,—We don't want to say "something bad," and try to avoid doing so; that is just why we left it for others to say whether or not the reproach against British bee-keepers of "discovering nothing for themselves" was justified or not. Nor do we despair of getting some justification for our confidence in American fairness in this respect even from yourself. Anyway, I (as junior editor in charge) am delighted to hear of your hearty wish to meet one of us "Britishers," and, as our senior, Mr. Cowan, is just now on American soil, I cordially invite you to try and get a bee-talk with him—say at Medina, where other editors could join you—about our ways and yours, of doing things. It would do us all good to have a "report" of such a meeting. What say you?—W. B. C.]

APICULTURAL NOTES.

[3159.] The weather here during the whole of January was exceedingly mild, and bees were often on the wing. There was no frost worth mentioning, and only about two wet days. February, however, has brought with it a change. We are now having cold, searching winds, with a slight downfall of rain. Bees are now perfectly quiet, a state in which I should like them to remain for at least another six weeks. Nothing will be done by me to arouse them to activity during this and next month. I have not opened any hives yet; I felt the weight of a few the other day, and they were as much as I could fairly lift. So I rest satisfied as to their being all right for the present.

The time has now arrived when bee-keepers should be busy preparing for the coming honey season. My method of dealing with supers taken off the hives at the end of the season may be interesting to some readers, so I append a few details of the plan followed:—Sections found to be only partly filled were cut up, the honey drained from them, and the comb melted down into wax, the used sections being thrown on one side for firewood. All foundation not worked out by the bees

was removed from sections, and if the latter were in the slightest degree discoloured they were also broken up. The foundation thus removed is packed in a box, and will be sent back to the maker to be re-made. Until quite recently I used to carefully preserve sections that contained partly drawn-out combs, I had an idea that they were of great value ; all sections fitted up with foundation, and not wanted for one year were in consequence stowed away in readiness for the next. But I have proved—to my own satisfaction, at all events—that bees don't take well to sections that contain either comb or old foundation no matter how good the latter may be—at least, they do not take to them so readily as to those furnished with fresh, new foundation. In many cases last year my racks were filled up with sections, some of which contained new, and the remainder old, foundation. Those containing the former were filled with honey, while the old foundation remained untouched. The same applies to sections of comb. And so, finding that to be the case, every bit of old comb and old foundation was removed, and new foundation substituted, which was readily taken to.

I have every reason to believe that my adoption of this plan was the means of getting hundreds of sections filled more than I otherwise should have had. This year I shall use nothing but new foundation and new sections. The fact of sections being so cheap makes it certain that it does not pay to use them a second time ; and dealers in honey who buy our produce are very particular nowadays about having only nice, clean sections. If I remember rightly, a pound of foundation is sufficient to fill about 100 sections. The cost of re-making foundation will be about 9d. per pound. I therefore strongly advise all who have last year's foundation by them to send same to maker to be re-made ; it will be money well spent.

All dividers used last year, and also section racks, have been boiled, by which means every particle of dirt and propolis has been removed, and they are now equal to new.—ALLEN SHARP, *Brampton, Hunts, February* 8.

THE "NO BEE-WAY" SECTION.

[3160.] I have been reading the communications on this subject as they have appeared in the BEE JOURNAL from week to week, and while, like your correspondent, Mr. Allen Sharp, looking upon new appliances as indicating a spirit of enterprise and progress, I am also like him, inclined to look somewhat askance at this latest innovation. By all means let us have our sections as equally and as well filled as we can get them, and if these objects are to be attained by a change in this direction then certainly let us have it, but I think a preliminary point to settle is this, Is the present style of section to blame for imperfectly finished sections ? Of course it may be said, that this can only be determined by experiment, and to a certain extent this may be true. But my experience as a bee-keeper leads me to the conclusion that the particular style of section used has very little to do with the matter. During the past twenty years I have used various makes of sections, two-way and four-way, in hanging frames, and placed directly into the rack, without any dividers and with dividers, both wood and metal, plain and slotted. But while under all these plans I have secured properly-filled and faultlessly finished sections from one hive, I have also had from another in the same apiary many of them imperfectly finished, that is to say, either not filled up close to the wood all round, or only partially so, all of which seems to me to indicate that it is not the section which is at fault. Given a strong colony, abundance of bee forage in the neighbourhood, and good weather, with perhaps in a lesser degree a particular strain of bees, and there would be little or no reason to complain of imperfectly finished sections ; but if one or more of these conditions are absent (and in our uncertain climate how seldom are all of them present), then imperfect sections in a greater or less degree are the result. Only once in my experience have I had all these favourable conditions at one time. This was in 1887 ; in that summer I had eight hives literally boiling over with bees, a large field of white clover within a short distance of the apiary, and perfect bee weather, and both for rapidity in filling and finish I never saw anything like it, either before or since. The first of these conditions is very much in the bee-keeper's own hands ; the second depends on the presence or absence of forage in the neighbourhood of the apiary, and may be obtained by judicious removal of stocks ; over the third —the weather—he has, of course, no control. With unfavourable weather, no matter what the style of section used, the result in many cases will be imperfect finish, and in others no sections at all.—J. ANDERSON, *Selkirk, N.B., February*, 1898.

PROPOLIS.

[3161.] The word was originally derived from the Greek *pro polis*, meaning *before the city*. The name had its full significance brought home to me lately when I saw in a friend's garden a skep with its entrance securely guarded against intruders by an ingenious fortification of this substance. The spot, I could fancy, was a favourite resort of slugs and snails, and the wise little architects evidently had these in mind when they built such a wall of this resinous matter, very nearly blocking up an entrance about 6 in. by $\frac{1}{2}$ in. It was constructed in the form of a series of pillars and arches. The pillars had strengthening abutments so designed that while they admitted as much air as possible they securely

protected the entrance from the incursions of any slimy would-be intruders.—D. M. M., *Banffshire, N.B., February* 2.

QUEEN-TRAPS AND SELF-HIVERS.

Referring to his letter in our last issue (3,153, p. 43), Mr. J. M. Hooker, dating from Philadelphia, January 23, writes as under :—"I sent my letter off rather in a hurry, and now recollect I omitted to say that the supers on old stock should be placed on the new hive containing the swarm."

Mr. Hooker also adds—"We are having very mild weather here, exceptionally so, I am told ; to-night, however, it is blowing a gale, though quite warm. I see from the B.J. that the season has been very mild in England. A friend, writing me from Lyme Regis, says they had roses and carnations blooming in the garden on December 28."—J. M. H.

MY NATIVE COUNTY.

Our esteemed correspondent "Lordswood" whose always welcome contributions have been so much missed of late as to cause several inquiries—had occasion to write us on the 5th inst., and, although his letter was not intended for publication, we make bold to insert it, first, by way of satisfying inquirers that he is still to the fore, and, second, because it is interesting and characteristic of the writer. Dating further away from "the workshop of the world" than usual, our friend says :—"I escaped last night and am spending Saturday (to-day) and Sunday here. I quite forgot the post goes out early here, so have missed it again to-night. This—my native county—is a delightful bit of the crust of that pie known as the earth. Hung up as it were on a 'jack,' fixed to the north pole, it has been going round and round, toasted all the while by the clear fire of Old Sol, that it appears to me just 'done to a turn.' A few more turns and perhaps it will be overdone !

"If you look in your atlas at the map of England, you will find a bare and arid spot where this land lies ; but turning to the map of the county you will see a 'woolley-bear' depicted as though climbing up a dock leaf. On one of the hairs of that creature I am at present sitting. Atlases are cold and contemptuous books. They tell you nothing of sweet meadows or of clear crystal streams, no word of English hedgegrows, and elm trees, and oaks, and low English hills, and little hamlets hidden away amongst the pines, and the bilberries, and the purple heather !

"Facing me there is a hill green to its crest with bilberry and ling ; rowan trees are growing here and there ; westward at the base is a silver birch wood, and eastward alders are intermingled with birch and sallow, spruce, firs, and pines. Between them are open spaces filled with blackberry and raspberry thickets, and great beds of rosebay willow herb ; southward, extends great pine woods and then ordinary woods of mixed timber ; not on a level plain but mounting somewhat steep hillsides. In the evening just now these woods are black as midnight, but when you get into them they are lit up by the innumerable dangling catkins of the hazel, and all about their depths are primrose roots, struggling amongst the brown leaves of autumn, and incomparable tufts of mosses of the most lustrous green ; fairy fern fronds, that go creeping through the bilberry and ling, and climbing the dead, thorny stems of brambles that flourished years ago. I have never seen the mosses so fine ; the mild winter has enabled them to make a growth of luxuriance ; frost kills them, and March winds generally finish their career for the season. People come to these hills in shoals in the summer. If they knew the beauty of these mosses, and of the withered bracken, and of the young bilberry buds, and of the sparkling freshness of the pine, fir, spruce, holly, and all such evergreens, they would also roam about these hills in winter. Still, the people (the town-born people) are improving, for years ago, when we lived here, it was a novelty to see a stranger even in the summer, and now they come in their thousands ! The hills are worn with the ceaseless tramping of their boots ; broad paths are made through the bilberry and heather. *Terrible !* the country people say, and so should I if I were ignorant of the earth's recuperative powers. As it is, there is little harm done. Nature can reduce such trifling things as orange-peel and paper and salmon-tins to their elemental parts, but even she seems to be puzzled with porter bottles. It is these last that cause me some annoyance. The thousands of children who come for a treat from the slums of our great city deem these hills fairyland. It is the one bright oasis in the desert of their lives, the subject of their dreams and hopes and prayers. We can see the bushes trampled down, and the rowan-tree berries gathered, &c., with equanimity, remembering this. I am hopeful that some day circumstances will not be so hard upon these children. I have been amongst them, and know how they live, and to me the sight is awful, terrible—a mountain of sorrows ! For when humanity has lost hope and forgotten love and is careless of cleanliness, then men and women become worse than the beasts, for these have never lost the instinct of keeping themselves clean !"

Queries and Replies.

[1908.] *Two Queens in One Hive.*—Referring to your correspondent's letter *re* "Two Queens in One Hive" (3140, p. 24). I should like to ask you a question, as I only started

bee-keeping in the latter part of last season. I purchased two stocks of bees in straw skeps, one a fairly strong stock (was told this by independent party), the other only moderate. Neither had had any honey taken from them, but the last-named one being only a swarm of 1897 had very little food in store, while had to be fed, the former weighed about 22 lb. At the end of about November last I noticed on one warm day what seemed almost all of the bees out of the weaker hive, while none were flying from the other. I, therefore, examined the latter, and then found all the bees gone! There were a few dead ones on the floor-board, and in the combs was about 15 lb. of honey. On purchasing this skep I saw two queens in this hive, and this leads me to ask:—Do you think the two queens will have fought and killed each other? and, if so, have the worker-bees left and gone to the other hive?—A. E. J., *Kirkby Thore, February* 1.

REPLY.—We cannot quite understand how you came to see two queens in the skep when purchasing, if the skep was an established stock at the time it came into your possession. If this was explained it might help us in arriving at a conclusion with regard to the mishap. Meantime we think it probable that by some means the skep has become queenless, and, as you suppose, the remaining worker-bees have joined forces with the stronger skep.

[1909.] *Comb-building in March.*—1. I see in your papers it is recommended to make the bees build combs in March, ready for the honey flow. Should I put on a rack of sections in March? or insert frames fitted with foundation between the brood frames in the brood nest? I, being a beginner, have not quite grasped the way to act from the articles I read, so I hope you will be able to help me. 2. There is another thing I should ask about. To-day I noticed several times two bees seemed to fight, and at last fell to the ground, when they separated. I fancy they belonged to the hive. Do you think they are short of stores to cause this? I put some candy over frames last autumn. Could I take the top off, and lift the quilt to see if there is any left? In which case ought I to give them some smoke before so doing? 3. When should I scatter pea-meal about? as I fancy this mild season may require different measures to what the "Guide-Book" says.—TYRO, *Worcester, Feb.* 2.

REPLY.—1. March is too soon for giving sections. If the bees are very strong and weather warm, you may, however, insert a frame of foundation in centre of brood-nest at that time. 2. A little robbing is perhaps going on, but no great harm will follow if it does not increase. If there is any doubt about the stores being sufficient, place another cake of candy on, but don't disturb the bees more than possible in so doing. 3. Not until the crocus is in full bloom and days are bright and warm.

[1910.] *Mice in Hive.*—I have one hive, and am afraid that mice have got into it, as I found some mice "droppings" on floor-board. Can I at this season open the hive and lift out frames to examine, and, if possible, get rid of the intruder? 2. What must I do in a case where the bees have stuck two of the brood-combs together if I want to lift them out? I can't pass a knife down because of the bees. When is the proper time to separate combs? The frames of comb I refer to are old and uneven, and were put into the hive last season full of honey. The top bars of frames are not uniform, two frames having broad shoulders, and the rest are with "W. B. C." ends on them. 3. How do the bees load the pollen on to their legs? I have watched them, but cannot see how they work it there.—ROSEMARY, *Foregate, Worcester, February* 2.

REPLY.—1. First examine the hive coverings above frames. The mouse may have its nest there; or the hive entrance may be large enough to admit the intruder. In any case, we should not disturb the frames till the first warm day on which the bees are flying freely. 2. The brace-combs must be severed by passing a knife down, first driving away the bees with a little smoke. After lifting out the faulty combs, the protruberances must be pared down where too thick; but, if malformed, remove the combs altogether if free from brood. 3. It would take up too much space and require illustrations to explain clearly the wonderful and beautiful apparatus by means of which the bee gathers and distributes the fertilising dust of flowers known to bee-keepers as pollen. We can only say here that the pollen is collected upon the hairs with which the body of the bee is covered; then, after being gathered into bulk, it is kneaded by the insect into a compact mass, and carried home on the hind legs of the bee in certain hollows provided for the purpose, and termed pollen baskets. All this and much more useful information on bees and bee-keeping can be gathered from a good text-book, with which every beginner should provide himself with if he means to succeed in the pursuit.

[1911.] *Transferring Bees in Frame-hives.*—Being an attentive reader of your valuable paper, the B.B.J., may I ask you to kindly answer the following questions: — I had about 2 cwt. of fine honey last season, and, to save time, I bottled a lot of it in 1-lb. jars, and at once tied them down. It was then packed away in a warm cupboard. When it began to granulate a grey substance appeared on the top like mildew, but very sweet to the taste. Never having seen the like before, I asked an old bee-keeper as to this; he said I had tied it down too soon. 1. Please say what caused this. I thought it might be honey-dew. 2. I bought my first hive in 1894, it being full of honey and bees at the time. But, on proper examination, I found the frames of various sizes, with top-bars so short that three of the frames had dropped off the ledges. The frames are also much too deep to put into a

new hive of proper depth with standard frames. On the other hand, if I put standard frames into the old hive, so as to get the bees on to them, and combs built in them along with bees into the new hive, there will be a lot of trouble with brace-combs. The floor-board of the hive is also nailed fast on. And, in view of getting rid of the old hive altogether, I ask, will the following plan work?—In early spring, when the bees are quiet, I propose to raise the old hive up so that I may bore two or three holes 1 in. in diameter with brace and bit; then place the hive on top of a new one, the frames of which are filled with full sheets of foundation. 3. Would the bees work down through the holes into the lower hive all right?—G. E., *Coventry, February* 7.

REPLY.—1. We cannot conceive any substance "appearing on the top like mildew," unless it be the froth or air-bubbles which rise to the surface sometimes after extracting; could you not send us a sample to judge from? 2. If the holes are so arranged as to allow free access to the hive below, the bees will in time take possession, and make their brood-nest in lower hive; but our plan would be to prise off the fast floor-board and set the old hive, when made bottomless, direct on top of frames with a quilt of American cloth—having 4-in. hole in centre—between. 3. Yes, if the work is properly done.

[1912.] *Pollen Gathering.*—I have a lot of driven bees in a combination hive (started last October), and about 200 yards from hive there is also a long strip of aconites in full bloom, and 300 yards off some large bushes of lauristinus in full bloom. Both these are covered with bees, gathering such big balls of yellow pollen, also white ditto, but none of these bees can I trace to my hive, the bees of which fly about entrance (about a dozen or so at a time), and some go off on flight; but, although I have watched for half an hour at a time, not a single bee goes into the hive loaded. They seem to fly aimlessly about, doing no work. They had candy over frames, but I have not looked inside hive yet. Could I safely do so now? or would it be better to wait? The bees I mention must belong to some one else. The last two days have been so mild that these bees have appeared very busy.—TYRO.

REPLY.—Bees seldom gather pollen at this season unless breeding has started. Possibly the stock referred to is only just beginning to raise brood. We advise no interference with the hive at present.

[1913] *Buying Bees.*—I am anxious to get a first-class Ligurian imported queen on, say, three frames of bees early this season. Can you let me know to whom I should apply? Last spring I wrote to one who deals in bees and appliances (not one of your advertisers) and he offered to send the above for 12s. 6d., which sum I duly forwarded, but have neither seen the bees nor had cash returned since. I have written repeatedly to no purpose, and, as I don't want to be swindled again this spring, I ask your advice before sending money to people I know nothing about. My bees have been busy for the last week, a thing I never saw in January before in these parts.—J. B., *Blairgowrie, February* 1.

REPLY.—The dealer referred to should be sued in the County Court. There should be no difficulty in selecting from among the well-known old and reliable firms who advertise in our columns, without our naming anyone in preference to others.

WEATHER REPORTS.

WESTBOURNE, SUSSEX,
JANUARY, 1898.

Rainfall, ·78 in.	Sunless Days, 19.
Heaviest fall, ·44 in., on 5th	Below average, 34·4 hours.
Rain fell on 7 days.	Mean Maximum, 45·3°.
Below average, 1·67 in.	Mean Minimum 36.6°.
Maximum Temperature, 51°, on 22nd	Mean Temperature, 40.9°.
Minimum Temperature, 25°, on 11th.	Above average, 6·3°.
Minimum on Grass, 23°, on 11th.	Maximum Barometer, 30·78°, on 29th.
Frosty Nights, 6.	Minimum Barometer, 29·25°, on 1st.
Sunshine, 38·9 hrs.	
Brightest day, 31st, 7·2 hours.	

L. B. BIRKETT.

FENLOE, NEWMARKET-ON-FERGUS,
CO. CLARE, IRELAND.
JANUARY, 1898.

Rainfall, 3·48 in.	Mean Maximum Temperature, 49·7°.
Heaviest fall, ·94 in. on 4th.	Mean Minimum Temperature, 41·1°.
Rain fell on 20 days.	Maximum Barometer, 30·42 on 23rd.
Maximum Temperature, 55° on 21st and 29th.	Minimum Barometer, 29·2 on 1st.
Minimum Temperature, 31° on 24th.	

S. C. HICKMAN (Major.)

Echoes from the Hives.

Hatfield Heath, Essex, February 6.—The winter, up to a few days ago, has been so mild that some of my stocks have—from outward and visible signs — been breeding since December, and the present cold weather comes with what looks like treacherous severity to the bees. I am afraid there will

be much brood chilled. I saw dead brood (chilled, of course) being brought out of one hive after the few days of severe frost at Christmas, and I fear that unless attention is given, in the form of extra and warm wraps, the bees will lose heart, and be loth to start afresh after the unpleasant duty of removing a large number of dead larvæ. Never in my time have I seen spring flowers bloom all through the winter as they have done this season. The catkins were in full bloom on the nut trees on January 22, and the flower-buds of the palm-willow have put on their silvery jackets, and are now grown to the size of beans. The winter of 1889-90 was just such a one as the present, so far, with the exception that on Christmas-day, 1889, the bees were flying as they do in May. The day was so warm that to work comfortably out of doors it would have been necessary to take off one's coat. In the early days of the following March, however, we had snow and very severe frost, and my diary shows that the very mild winter I am referring to was followed by a wet, cold, and stormy summer to the end of August, 1890. We then had a few weeks of lovely weather, and the bees well stored their brood-nests with honey from the late flowers. —Wm. Loveday.

TOTAL HONEY IMPORTS FOR 1897.

The total value of honey imported into the United Kingdom during the past year is shown in the following monthly returns for 1897 as furnished to the British Bee Journal by the Statistical Office, H.M. Customs:—

January	£267
February	1,666
March	1,310
April	1,293
May	1,706
June	1,921
July	5,791
August	1,987
September	1,852
October	2,123
November	656
December	1,489
Total for the year	£21,861

SIZE OF BROOD-CHAMBERS.

SWARM OR PARENT COLONY FOR HONEY?

A subscriber to the *American Bee Journal* wishes me to tell through its columns how many "Langstroth" frames I would use in a hive, when working exclusively for comb honey? and also asks which will do best at producing comb honey, the prime swarm or the old colony, where but one swarm is allowed from each old colony in the spring? As these are reasonable questions, I will try to answer as best I can.

Regarding the first, I would use just as many "Langstroth" frames in the brood-chamber, when working for comb honey, as the queen had occupied with brood when the honey harvest commenced in earnest in my locality, and yielded a sufficient flow of nectar to induce the bees to make a business of storing surplus, according as any one honey tree or plant abounded in the district where I resided. For this reason I would use a ten-frame "Langstroth" hive; that is, a hive of that capacity, and have it so arranged that I could reduce it to a four-frame, should I find any queen at the commencement of the honey harvest keeping no more than that number occupied with brood. In the same way I would want to be able to enlarge the hive to a five, six, seven, eight, or nine frames, just in accord with the prolificness of the queen.

Sometimes, but not often, queens will fill ten "Langstroth" frames with brood, when they are laying at their best; hence we wish a ten-frame hive for these queens; and as we do not know just which hive will have such a specially prolific queen in any year, we make all our hives to hold ten frames. But as the majority of our best queens keep no more than nine frames filled with brood, we wish some way of reducing the number of frames when required. I know of no better way of doing this than by using an inch board, cut a little smaller than the inside of the hive below the rabbets, and having a top-bar of a frame nailed to one side; it will then hang in the hive the same as a frame.

When at the beginning of the honey harvest a queen is found capable of keeping only nine frames filled with brood, and there are ten frames in the hive, the one the queen does not occupy is removed, and the prepared board takes its place. But, as a rule, we find by far the larger part of our queens occupying only eight frames with brood, and in this case we use one of the boards on each side of the hive, instead of both on one side, as this brings the top of the hive in better shape for the bees to work to the best advantage in the sections.

A few of our queens may not come up to this average of prolificness, consequently we wish to still further reduce the size of the hive in such cases, and in this case I use two frames spiked together, having ⅞ lumber nailed on each side, thus making what is known as a "dummy." With these boards and dummies we can make the hive so it will suit the prolificness of any queen at the commencement of any honey harvest, and thus secure the best results in comb honey.

If we allow the bees to start storing honey in quantity in the brood-chamber they will be loth to enter sections, preferring to keep on storing in the brood-chamber, and thus crowd-

ing the queen more and more in her brood space, till at the end of the season we will have very little honey in the sections and few bees in the hive for winter. If there is any one thing which tends toward poor success in the production of section honey more than another I believe the having much empty comb in the brood-chamber at the beginning of the honey harvest is the worst.

Strive, therefore, to have every queen doing her level best at brood-rearing for a month or six weeks before the expected harvest, so that the maximum number of bees shall come with the beginning of the harvest; then take away all combs unoccupied with brood, putting on the sections, and we are as near perfection, according to my views, as we are likely to get; and should the season be a good one, there will be no cause to complain at the results secured.

But I think I hear some one asking, "Why not kill all the unprolific queens we may happen to have, before the honey harvest?" Should we do this, we shall throw the colony into an abnormal condition, which will work against our securing as good results from that colony as we would have secured had we left the unprolific queen till the end of the harvest and then replaced her. This is what I mean by "abnormal condition."

If a young, prolific queen is given to a colony at the commencement of the honey harvest, she will not be content with the number of combs which the old one occupied, and if confined to these, swarming during the middle of the harvest will be the result. This would, of course, blight our prospect of a good harvest from any colony which gets the swarm-fever at this time; and should we give this queen all the room she needed, say eight or nine frames, it would either result in the bees crowding her out with honey, as spoken of above, or in their using most of the honey brought in from the fields in feeding the large quantity of brood she would bring about, which brood would hatch out so late that the bees from it would become consumers instead of producers, and thus we would nearly or entirely lose the use of that colony during the season.

In regard to which is likely to produce the most comb honey, the swarm or the parent colony? that depends upon when the swarm issues. If it comes ten days or more in advance of the harvest, and the old colony is not allowed to swarm again, then with proper management the old colony will give the best results. On the other hand, if the swarm comes off at the commencement of, or during the harvest, then every advantage should be turned to the account of the swarm, for the old colony would do little more than secure honey enough for winter under the best of management, while the swarm can be made to give good results by throwing the main force of bees to it.—G. M. Doolittle, *in American Bee Journal.*

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

F. W. L. S. (Devon).—*Wild Bees.*—We shall be very pleased to receive the promised articles on the subject, and have no doubt that they will be appreciated by our readers.

R. C. (Newton, Kettering).—*Black Varnish for Hives.*—Our correspondent asks us to name a cheap black varnish, or black paint, that will dry quickly, and be cheaper than ordinary paint. Perhaps some reader may be able to furnish the information, for we know of no such substitute for common paint made from white lead, &c. Gas-tar is, of course, cheaper, but that is objected to as smearing the hands in hot weather.

J. S. (Wirksworth, Derby).—*Bees Deserting Hives.*—From the details given we can only suppose that the stocks became queenless after swarming, and deserted their hives in the autumn to join colonies near which had queens and fully furnished homes.

L. Doran (co. Louth).—*Honey Samples.*—The honey sent, save for being rather thin, is of good quality and excellent colour. We should also call it good in flavour, notwithstanding the objection taken to this by your customer.

T. D. E. (South Norwood).—*Selecting Appliances.*—1. With the "Guide Book" already in your possession, and the author's own hive fully described and illustrated on p. 36 of that work, it is curious that we should be asked "which hive we prefer." Both Editors of this Journal have hives specially associated with themselves—by name or by initials—and this perforce fixes their opinions as regards personal preference; but they are none the less free to admit that many experienced bee-keepers differ from them in this particular. The best way, therefore, is to write to one or two of our known advertisers, and pay a visit to the nearest one, if convenient, then judge for yourself after inspecting hives of various types. 2. March or April are the best months to start with established stocks of bees. 3. We cannot do more than class South Norwood as a very moderate honey district. 4. Bees are supposed to gather honey in a radius of about 1½ miles from the hive.

T. S. H. (Sutton, Surrey).—*Sugar for Bee Candy.*—1. Some prefer to use lump sugar for candy making, though white crystals of refined cane sugar answer very well. Yellow crystallised sugars are more suitable for syrup food in spring; but for neither syrup nor candy do we advise raw or unrefined sugars. These latter contain too much of the treacle—or molasses—of the sugar, and consequently they are not at all suited for wintering bees on. 2. Do not conclude that the bees are suffering from the disease named. Wait a week or two before taking any steps for remedying the mischief.

Editorial, Notices, &c.

BRISTOL, SOMERSETSHIRE, AND SOUTH GLOUCESTERSHIRE B.K.A.

The annual meeting of the Association was held at 11, High-street, Bristol, on Saturday, January 29, when a larger number of members than usual attended. After tea, at which fifty-two sat down, four prizes, given by the Association, were drawn for.

At seven o'clock, by which time several other members had arrived, Mr. Hamlyn-Harris took the chair. The minutes of the previous annual meeting were read and confirmed. The secretary then read the report and financial statement for the year 1897. The adoption of the same was proposed by Mr. Brown and seconded by Mrs. Thatcher. The names of officers for the ensuing year were submitted, and their election was proposed by Mr. Jolly and seconded by Mr. Tarr. The report, in summarising the work for the year, showed that two especial features had been the competition in the Special County Honey Trophy at the "Royal" Show at Manchester, and the constitution of patrons and life members in connection with the Association. The necessary expense entailed by the former was met twice over by the latter. In spite of this, however, the balance-sheet remains very unsatisfactory, there being a deficit of nearly £20, and it was suggested that the Association should seriously consider the advisability of making 2s. instead of 1s. the minimum subscription, especially as two visits are given to members in the year. There had been a large withdrawal of membership in one district, owing to the inability of the expert (who had a prior engagement) to finish his first round in the spring, but in spite of this the number of members remains about the same as last year. Statistics of foul brood were given which showed that there was an increase in Gloucestershire, but not in Somersetshire. At the conversazione which followed the reading of the report, Mr. Hamlyn-Harris exhibited some thirty different kinds of honey, and an instructive discussion took place. Mr Brown gave an interesting account of the making of comb foundation and showed various kinds, and also exhibited and explained the newest designs in several appliances. Mr. Wilcox and Mr. Withycombe exhibited two excellent hives in accordance with the wishes of the Council, who had decided to have a "Bristol Association hive" to submit to the members. The two on view had been made by Mr. Withycombe and Mr. Wilcox respectively, and were thoroughly appreciated, but were pronounced too expensive for cottagers' use, and it was decided to have further plans submitted. Mr. Jordan gave a descriptive account of foul brood, and having invited questions, several were put and further information on the subject was elicited. Mr. Withycombe then gave a very interesting account of his visits, and after a few words from "North Somerset," Mr. Jordan, Mr. Burtt, and others, a very enjoyable and profitable meeting was brought to a close.—(*Communicated.*)

BEE-KEEPING IN WILTSHIRE.

COUNTY COUNCIL REPORTS FOR 1897.

We have been favoured with a copy of the annual report for the year ended September 30, 1897, prepared by the Agricultural Committee of the Wilts C.C. for presentation to the County Council at a special meeting held on the 15th inst. In giving a general review of their year's work, the Committee refer to the several distinct branches of technical teaching to which attention has been given, including butter and cheese making and farriery, all of which subjects have been taught in itinerant schools. Demonstrations in bee-culture have also been held in various centres, regarding which the report says :—"The Committee, during the past year, extended the scope of their operations by employing four bee-experts to visit various parts of the county and give instruction in the management and manipulation of bees. An aggregate of 475 pupils were in attendance at the lessons, and much useful information was imparted, the instruction being in nearly all cases appreciated."

Referring to the number of pupils throughout the county under instruction in agricultural subjects, the report further says :—

"The following is a summary of the number of entries of pupils during the past year at the various schools and classes under the supervision of the Committee :—Total entries of pupils, 1,252 ; special subjects, 494 ; bee-culture lectures, 475 ; butter school, 144 ; cheese schools, 63 ; farriery school, 76. This compares very favourably with the returns for last year, the total number of entries then being 637."

An "appendix" of six pages concludes the report referring to the "Demonstrations in Bee Culture" wherein are given full tabulated reports of the work done by the four experts appointed. The first of whom in one paragraph says :—

"I held twenty-eight out-door meetings, visiting ninety apiaries, consisting altogether of 602 bar frame hives and 611 skeps —total, 1,213. I was welcomed at every place, and was not once refused permission to examine hives, except (very properly) when they had been already packed for winter. I received much hospitality, and many requests to come again."

Our space is too limited for full details of the work done, but it seems to have been almost wholly confined to instructing cottagers and persons of the artizan class, and for the

very moderate grant of £50 expended it seems to well warrant a continuance of the grant judging by results.

One item worth notice is the total mileage travelled by three of the four experts which extended to 1,544 miles.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[3162.] Here we are in mid-February, and no sign of winter yet! Sunday (the 13th) was a spring-like day—larks trilling high overhead, and blackbirds and thrushes in the woods vieing with each other in a charming chorus of sweet song. To-day (St. Valentine's) is the legendary date when each songster chooses its mate; but my observation tends to show that the mildness of the season has induced some "early birds" to start housekeeping sooner than usual this year, and for their sakes it is to be hoped that no long continuance of frost is in store, causing a vain search for the worm which the old adage gives to the said "early bird."

Then we have other nests started into early growth this year; in fact, I think the start was made anterior to Christmas, '97, in some cases. What this portends for the harvest at midsummer we can only speculate on; as the weeks grow into months, all wise ones agree as to leaving stocks alone, so that no interference shall induce a too-rapid development in breeding, in case sudden change to very cold weather causes the bees to cluster closer and the deserted brood will certainly suffer in consequence.

The usual drinking troughs should be provided in sunny, sheltered positions. This will effect considerable saving of bee-life in the early spring.

Having been asked to give my opinion on Mr. Allen Sharp's "note" (3159, p. 54) last week, I may say, on first scanning the article, I did not quite grasp Mr. Sharp's meaning; but when the evening came, and I read the article carefully, I was astonished to find that I had been hitherto so mistaken in my method of working (when contrasted with Mr. Sharp's), and, worse still, when I considered that I had had the temerity to try and teach others my methods. Yet, according to Mr. Sharp's showing, I ought to have secured larger harvests and made more profit out of my apiaries if I had not been so saving of every little bit of clean comb, even the bits left by swarms, located for a few hours in a straw skep, which latter I have treasured up and fixed into sections, thinking—unwisely it seems—that there was money in them. Again, year after year—alas, they lay behind!—haven't I taken extra pains in extracting from those unfinished sections so that the combs should not be damaged or broken? Haven't I wished, as every extracting time came round, that some one would invent an extractor for doing this kind of work properly and well? Haven't I rigged up some folded wire cloth to meet these requirements, to save these fragile articles from damage in the case of the extractor? Now, however, this save-all principle is to be discarded, and the whole consigned to the melting-pot and the stoke-hole. The beautifully-built squares of comb ready for the bees to put the first pound of honey into is work that will have to be done over again if we bee-keepers wish to increase our output. Well, friends—and friend Sharp in particular—I cannot believe that increasing the honey harvest lies in the new method propounded in last week's B.J. Then as to foundation requiring to be renewed or remade each year, I have some "British weed" of last season's make which will be used (D.V.) in the coming season. I have just looked it up, and it is as nice as can be—bright and clear, and smells sweet and good. Why should I spend money in having it remade? I contend that when this foundation on hand is put into sections, and the hives are just boiling over with bees, and old Sol is pouring down on us waves of heat, these sections will (especially if baited with a few nice clean combs) be filled before sections filled with '98 foundation only.

I agree with what Mr. Sharp says *re* clean sections. We rarely use sections from which honey has been cut out, though where combs are good or the foundation is fixed, they are carefully preserved in racks for use another year.—W. Woodley, *Beedon, Newbury.*

[We are very pleased to present readers with the views of two such well-known producers of comb-honey in sections as Messrs. Wm. Woodley and Allen Sharp; and none the less useful—as promoting the general "fulness of knowledge"—is it to find diverse views entertained and opposite methods adopted in attaining best results. We trust, however, that our esteemed contributors will not allow themselves to be led into any even half-angry discussion on the subject, but "agree to differ" rather than "differing but to disagree." Instead, therefore, of a contentious "note" in answer to the above, may we suggest some such reply as:—"All right my boy, you go your way, I go mine. May you get most honey (but I'll give you a hard run for it), and let us tell B.J. readers how we get on in the

race." It is wonderful how much of good, and no harm, would come out of such a resolve as we here venture to hint at.—EDS.]

APICULTURAL NOTES.

CLEANLINESS—SHALL WE PRESERVE COMBS FOR EXTRACTING?

[3163.] In my last "notes" I explained that all my section-racks and dividers used last year have been boiled. Perhaps some readers may wonder why I should have gone to that trouble, so let me explain that I had a two-fold object in view. In the first place, a large number of my racks had been in use for a good many years, and, although carefully scraped at the end of each season, they had become so discoloured and stained with propolis, that I was quite ashamed of them. The only way to thoroughly cleanse them was by boiling; scrubbing with hot water did not prove satisfactory. It is difficult to clean wooden dividers by scraping, and, unless very careful, you break off the feet—or projections top and bottom — and this spoils the dividers for further use, and as they cost about one-half-penny each, it pays to take care of them, especially where hundreds are used in a season. By boiling them in the copper the whole thing is done most effectually and without risk of breakage. All frames, used once, and good enough for using again, are also boiled. In fact, if my copper was large enough I would boil every empty hive before using it a second time, especially if it had been in use for a number of years.

I regard cleanliness as one of the main essentials to success in bee-keeping, especially in these days when one hears so much about foul brood, for should disease break out in an apiary where everything is kept scrupulously clean, the owner would obviously stand a great deal better chance of successfully combating the malady than if cleanliness had been of no moment. The twofold object, then, in boiling section-racks, &c., is, first, to make them sweet, clean, and acceptable to the bees; and, secondly, as a prevention against disease. Perfect cleanliness, young queens, and new combs, are the three things which, in my opinion, will do more to keep an apiary healthy than all the legislation that can be instituted.

I was asked the other day if I advocate preserving combs for extracting. That is a question to which one cannot give an unqualified reply. It depends upon circumstances. If the apiary is perfectly healthy, and the combs well built, free from pollen, sweet and clean, and the bee-keeper has a good place to store them where they will be kept free from dust, damp, and mice, I should say "keep them." If, on the contrary, there is the slightest trace of disease in the apiary, and a doubt as to which combs have, at any time, been used on, or in any way brought into contact with, diseased colonies, I should say, "Melt all such combs down, and have a clean start the next year." Even where bees are healthy, if the bee-keeper has not the convenience for keeping surplus-combs in prime condition, I am not at all sure that it would not be good policy to use the melting-pot, and start the next year with foundation. There is now a marked improvement in the manufacture of foundation. Those who are laying themselves out for this work are giving special attention to the matter, my firm belief being that something is put in the foundation which is very attractive to the bees. Anyway, they take to it most readily. Others besides myself, too, have noticed that during the early part of the season a rack of frames furnished with foundation will be built out and filled with honey quite as rapidly as a set of ready-built combs. But towards the end of the season different results are noticeable; at that time, dry, ready-built combs are often filled with honey while foundation is quite neglected. In Mr. Doolittle's article, which appeared in B.B.J. the other week, he spoke highly of the value of combs, saying that he would allow no one to melt up his surplus combs, even if offered twice their number of square feet they contain in foundation. I am sorry Mr. Doolittle does not live nearer me. If he did I would try to have a deal with him—that is to say, if he would give me a new frame and two sheets of foundation for each ready-built comb I could supply, he should have every one I possess. It would save me the trouble of storing them during winter, and would also, I think, yield me a good profit.—ALLEN SHARP, *Brampton, Huntingdon.*

BEE-KEEPING.

HOW TO ACHIEVE SUCCESS.

(*Continued from page* 48.)

[3164.] *Handling Bees.*—It is safe to say that hardly any two bee-keepers handle bees exactly alike. Nor is it less true that, while a few easily attain a considerable amount of skill in this branch of bee-keeping, not a few fail entirely to manipulate their bees with comfort to themselves, to say nothing of doing all such work neatly and thoroughly. Yet, if it was realised by those who strive to become successful with bees how much depends upon the attainment of these points it is certain that more thought would be given to this phase of the matter. Many make a start with so little of aptitude for bee-handling as to think that it is only necessary to smoke down the bees almost to the verge of suffocation, dismantle the hive, tear aside the quilt, pull the bees and frames about, put them back again anyhow, and close the hive down again with a bang! and if they escape being stung during the process, conclude that it is evidence of their skill in handling. Some who should know better go about their work so roughly and cruelly, so far as bee-life,

as to make such handling almost unbearable for any one who thinks of the poor bees having life and feeling. I have seen a whole apiary of fourteen hives thoroughly disorganised for days by the injudicious treatment of one colony. So far as subduing bees, it is less the quantity of smoke used as the quiet, firm way in which the frames of comb and bees are manipulated; rough handling leads to stings as a rule. First give a couple of puffs of smoke at the entrance to drive in the guards, then remove the roof, lifts, and other appurtenances, till the hive-top is clear of extraneous coverings, raise the quilt at one corner and puff a little smoke along the frame ends from one side of the hive to the other, raising and lowering the quilt as the smoker is gently carried along; and then leave the bees a moment or two to "feed," as they always do when alarmed by smoke. Here is where many fail; they think that an abundance of smoke is all that is required, entirely forgetting that the real purpose in smoking bees is not solely to alarm them but only to use the intimidant in just sufficient quantity to induce the bees to fill themselves with honey; and for this a little time should be allowed. Next proceed to carry out the object in view, going to work deliberately, quietly, and with as little of excitement or hurry, as if going to spend an hour in quiet reading. In other words, first making yourself quite comfortable with regard to position for removing frames (I generally carry with me a light empty box of a convenient height to sit upon), then carefully remove frame by frame and read the story of the hive off, as leaf after leaf tells the interesting tale of never-ceasing industry within. While doing so, don't trouble continually about the "smoker"; its mission is nearly fulfilled when once the bees are filled. Nothing irritates me more than to see the manipulator of bees, man or woman, directly one takes wing, rush for the smoker as though it was the only haven of safety from stings. Let the smoker rest till the bees begin to show real signs of needing a reminder that it has not "gone out," which they don't often do if properly dealt with. Never entirely remove quilts from all frames; uncover part thereof at a time, and, when the first few have been examined, cover them over again. This saves chilling brood, and keeps the bees quiet and well under control at the same time.

It is not advisable to handle bees without some protection for the face; therefore, always wear a veil, but do not—if they can possibly be avoided—wear gloves; they irritate the bees and cause much mortality among them that would otherwise be spared.

The best time for carrying out bee manipulation is about noon on a fine, warm day. The workers are then usually absent from the hive, and when returning laden are less likely to trouble the manipulator, their chief mission being to get rid of their load and to be off again for a fresh cargo. Never manipulate a stock from the front of a hive; stand at the back or side thereof, according to the position in which the frames hang. The reasons for this are obvious. If the entrance is blocked by your person, hundreds of bees will collect about the operator and cause confusion and excitement, not only at the hive open at the time, but at all others in its immediate vicinity.

The temper of the bees can be readily judged on first opening a hive, and the desirability of continuing operations estimated almost exactly. If the bees seem to bubble up over the frames with a sharp, resentful "whiz," go no further. Quietly close the hive, and try them again in an hour or two, or better, next day. If, however, they remain quiet, proceed, carefully parting and removing the frames out; and when the object of the operations is attained, replace the frames in their old and proper position, always taking care that the queen is safely within the hive and uninjured.

In examining frames, handle them in the proper orthodox way; if this be not attended to, and the weather is at all warm at the time, the probability is that the bees, comb, and its contents will part company with the frame and fall out, causing a state of matters not easily remedied. Do not keep the frames out of the hive longer than is absolutely necessary, and never attempt to manipulate bees at unseasonable times, such as when low temperatures prevail, or too early in the spring or late in the autumn.—HENRY W. BRICE.

(To be continued.)

(Correspondence continued on page 66.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Our bee-garden picture this week shows the apiary of Mr. R. Hamlyn-Harris. It is located five miles distant from Bristol on the Conifers Estate, the property of his father.

The "pear orchard" in which the hives stand is said to be the finest in Gloucestershire; and one can well understand its reputation, judging by the fine show of bloom on the few of famous pear trees seen in the portion of the orchard where the hives stand. The hives are placed between, not under, the trees, and certainly far enough apart to avoid risk of young queens or bees mistaking their hives, or any other mischief of that kind such as sometimes results from overcrowding.

Mr. Hamlyn-Harris—who is seen on the extreme left of picture in the act of examining a hive—is the third son of Captain Hamlyn-Harris (late 18th Hussars), and comes of a distinctly military family rather than an apicultural one. His great-grandfather, Colonel Sir Thomas Noel Harris, K.H., Groom-in-

Waiting to the Queen, &c., &c., was the officer chosen to convey the news to England of hostilities having ceased in the great Continental War of 1814.

Living, happily, in more peaceful times, Mr. R. H.-H. has kept bees for over eight years, and, as we learn, been very successful with them. Referring to the district in which the apiary is located, he says: "It is not one of the best for bee-forage. Some light honey is generally procurable, but dark honey, I think, characterises the neighbourhood. I have, however, produced a considerable quantity of very good honey, and always found a ready market for it."

He has also devoted much time to the interests of the Bristol, Somerset, and Gloucester Bee-keepers' Association, of which he is Chairman, and represents the latter on the Council of the B.B.K.A., frequently coming up to London to attend meetings. He has also officiated as judge at honey shows, and, besides holding the 2nd Class Experts' Certificate of the B.B.K.A., has himself acted as examiner of candidates for the 3rd Class Certificate of that Association.

In sending us some further particulars regarding his apiary, Mr. H. says: "The buildings partly seen in picture are stables, greenhouses, &c. Near the centre to left at back will be seen the steps leading to my operating-room, one which affords every comfort as regards expediting work. Then overhead are two apartments, one being for honey, and the other my 'workroom.' The apiary has of late become so well known that visitors may be expected at any moment. A short time ago a party of seven friends paid us a visit, among them an Indian officer and his wife, who only arrived home from India on the previous day. They were not a little astonished to see bees handled without veil or smoker."

MR. R. HAMLYN-HARRIS'S APIARY, HAMBROOK, NEAR BRISTOL.

Taken altogether, we fancy there are few apiaries in this country where an equal amount of room is allowed for each hive as in the picturesque one depicted above, whose owner is a real bee-keeper at heart, as well as a keen student of all subjects connected with natural history.

Mr. Hamlyn-Harris has spent a good deal of his life abroad.

CORRESPONDENCE.

(*Continued from page* 64.)

BEE-KEEPERS' "WANTS."

BUYING HIVES IN THE FLAT.

[3165.] It seems to me it would be very advantageous if more hives besides the "Gayton" could be purchased in the pieces —or in the flat as some term it. It would in many cases cause a great saving in the carriage, and one must be a poor carpenter not to be able to nail a hive together. I am nine miles from a station and every hive costs me 1s. or 1s. 6d. extra, besides railway carriage for the carrier. The pieces being packed flat would occupy but little room comparatively. I paid 5s. railway carriage on a hive the original cost of which was 15s.!

Another "want" is a four-paged leaflet on honey as food, &c. It should state concisely the value of honey as a food, as a medicine, the adulterations of foreign honey, and the difference between extracted and run honey, the latter often being obtained from a mass of dead bees, &c. The value of honey as a food, &c., is not understood by the general public; yet children, even in villages, spend yearly hundreds and thousands of pounds on injurious sweets made from beet sugar.

The public require teaching the value of honey instead of regarding it as an expensive luxury; if this could be done the demand would soon exceed the supply. A good object-lesson would be a small glass case to contain two pieces of comb, one black with age, such as is taken out of the ordinary cottager's skep from which run honey is obtained, and if sulphured bees were in the cells so much the better; the other a piece of white comb after the honey had been extracted. Such an exhibit could not fail to sell the purer article. Will our appliance manufacturers note?—ALPHA, *Hull.*

YELLOW SECTIONS.

[3166.] I am a bit puzzled by what appeared in B.J. of the 3rd inst. regarding yellow sections. In his "Notes by the Way" (last paragraph on page 43), Mr. Woodley, in speaking of finest and best section honey, lays great stress on colour, especially mentioning that "of a pale straw colour from a more favoured locality." Does this mean to imply that what are known in our parts of the north as "*jaundiced* sections" are of necessity the acme of perfection in comb-honey, "weight and sealing equal"? Please set me right on this matter and try to give—to myself, at any rate—some comfort while hoping that our milk-white capped sections of clover honey may not waste their beauty in vain on the show bench in future while yellow ones are in sight. If you cannot do this, give me some method of producing bilious-looking sections from white clover and heather honey. Will yellow ochre and a camel's-hair brush do the trick? Can I upset the glandular system of the busy bees so as to produce the desired effect? Or, in a word, are we northeners to consider that the sections regarded as best all the world over where white clover grows must now give place to—again excuse the word—jaundiced ones? It will be interesting to know what bee-keepers generally say on this question.—A NORTHERN BEE-MAN, *February* 9.

HONEY IMPORTS.

An account showing the value of honey imported into the United Kingdom during the month of January, 1898, £2,424.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

Queries and Replies.

[1914] *Renewing Combs—Using Queen-Excluder Zinc above Brood Nests.*—I am a most interested reader of your valuable paper, the B.B.J., and have obtained many useful hints from it. At present I only have six hives, but there are the same number of empty ones in readiness for this year. I have noticed a number of bees (mine are Ligurians) flying about and carrying pollen into the hives. Would you kindly say:—1. Have I done right in giving bees cakes of sugar and pea-meal? 2. Last autumn I took out two frames of comb from each hive to extract the honey from. When will be the best time to return these combs in order to make up the original number—*i.e.*, ten? 3. Is it necessary to renew the combs in bar-frames? I noticed last season that some of mine looked very dark in colour. 4. Is it possible to use standard frames for extracting purposes instead of shallow frames? I have noticed that the larger frames extract so much better and without breaking the comb. Could I put a box of them on the top? 5. Do you advise the use of queen-excluding zinc between surplus and brood chambers? I have used it up till the present, but some people think it unnecessary under sections. Only once (two years ago) have I had a few sections spoiled with brood in them. I should like your advice.—A. M. B., *Colwyn Bay, February* 13.

REPLY.—1. If pollen is plentiful, and bees carry it in so early as mid-February, there is no need to use pea-flour in candy. 2. Insert the frames when bees need room; *i.e.*, when they about cover all combs in the hive except the sides next hive walls. 3. Yes. In fact, a gradual renewal should go on by having two or more combs built out each year. 4. It is, of course, quite possible to use "standard" combs in surplus chambers, and if you find them answer best there is no reason for adopting any other. But, curiously enough, the

shallow frame is expressly designed and recommended in preference to the standard, because there is obviously less risk of a breakage in extracting the smaller comb. 5. Yes, when extracted honey is worked for. Many bee-keepers discard the zinc below sections who invariably use it below extracting frames.

[1915.] *Transferring from Skeps to Frame Hives.*—Would you kindly answer the following query? In April I intend placing some stocked skeps on the top bars of frame-hives to allow bees to transfer themselves into same, but the present positions of skeps is not quite favourable to catch the early morning sun, there being a wall in front of them which nicely manages to just keep them in the shade. They need removing about six or eight yards backwards and then they would have a good south-east aspect. The question is, can I take skeps from present position and place them upon frames of bar-hives in the above-mentioned position without any danger or risk of losing any number of bees? Is the distance (six or eight yards) too far to remove at one move or must the skeps be moved only about two feet each day (on days that bees fly freely) till desired position is reached, and then to place above hives mentioned?—NOVICE, *Chichester, February* 10.

REPLY.—It would be unwise to move the skeps the whole distance at once, move them gradually, in the way suggested.

[1916.] *Tiering up for Surplus Honey.*—1. Is it best to allow several boxes of shallow frames, or racks of sections, to remain on the hives, one over the other, when filled, or should I remove each surplus-chamber when filled, and give empty ones instead? 2. Last year I had three boxes of shallow frames on at the same time, and this leads me to ask if it fatigues the bees to get to the top frames when storing their surplus honey so high? 3. Will not a section-clearer serve also as a clearer for shallow frames? 4. If I have, say, three boxes on a hive at the same time, should the clearer be put underneath the bottom box? 5. Can you tell me about the price per pound good yellow English bees-wax is worth?—G. B., *Herts.*

REPLY.—1. We prefer to leave shallow-frames intended for extracting on the hives for some time after filling for several reasons; but sections should be taken off as soon as fully filled and sealed. 2. The time occupied by bees in travelling to surplus chambers—even three or four high—is not of any appreciable value, so far as affecting results in surplus. 3. Yes. 4. Super-clearers must be placed below the boxes to be cleared. 5. From 1s. 2d. to 1s. 6d. per pound, according to quality.

[1917.] *The "W.B.C." Hive.*—Last year I made a "W.B.C." hive from description and illustrations given in B.J. of February 1 and 8, 1894. As I am about to make a second, and thinking I made a mistake in form of entrance, I shall be glad to have your opinion in next issue of BEE JOURNAL. In description of hive it says, entrance should be 15⅝ in. long, ⅜ in. high. My method was to cut a piece out of front of outer-case 15⅝ in. long, ⅜ in. high, and corresponding piece in body-box. In the space between outer-case and body-box I fixed two pieces of ⅜ in. wood, and upon top of these nailing strip of wood to prevent bees getting between outer case and hive. I found by this plan the frames in body-box came so near floor as to be propolised to bottom of hive, and so think I should have cut piece out of floor board ⅜ in. deep, the size of inside of body box, and continued it to alighting board. 1. Is this correct? I may say I found making the legs for stand the most difficult part; in fact I sent the wood in turn to three different carpenters for them to cut for me together with the instructions. One made excuses for not trying (he was too busy), the others in turn cut them wrong. In making a final attempt myself a neighbouring painter who was looking on was able to explain how to do it. Referring to Mr. Peeble's improved alighting board described in BEE JOURNAL of June 24, 1897, of which no description is given; I should be glad to hear details of it. In case this should meet the eye of that gentleman, perhaps he would be kind enough to explain it? I never notice any bee notes from this district in JOURNAL, so would be pleased to give my results together with my experience with foul brood if you should consider it of any interest. —Q. P., *Kingswinford, February* 8.

REPLY.—1. No. The measurements quoted for width of entrance (15⅝ in. long, ⅜ in. high, refer to the floor-board only—and if made as "cut" shown on page 49 of B. J. (vol. 22) it will be quite right. There is no entrance cut either in outer-case or hive body, the latter resting upon floor-board above the doorway provided in latter. If you keep to proper dimensions of body box and standard frame, a full bee-way is provided below bottom bars.

[1918.] *Boiling Wood for Hive-making in Naphthaline.*—As wood for gates, fences, &c., is in this district frequently boiled in naphthaline to render it rot-proof, which it does most effectually, I should be obliged by your informing me if you would consider it advisable to prepare the wood for hives in this manner as a precaution against foul brood. Of course, the hives would last much longer, if the bees could stand the smell of the wood, while the expense of painting them would be saved.—G. L. W., *Moniave, February* 13.

REPLY.—We should not advise boiling wood for hives as proposed, unless it could be done without leaving an odour that might be unpalatable to the bees, or otherwise objectionable. It might be worth trial though.

[1919.] *Bees Refusing Foundation.*—At the end of July, '97, I started bee-keeping with a

strong swarm which I hived in a modern frame-hive, fitted with standard frames. About the end of August the body-box appearing to be full, I put on a "W. B. C." section-rack with full sheets of foundation in sections. The bees, however, refused to go up into this in any numbers, and when about mid September the rack was removed, I found that the bees had commenced to build comb on the woodwork of the section-holders instead of drawing out the foundation. To avoid disappointment again this year I shall be glad if you will kindly inform me:—1. Did I do wrong? 2. Do you consider the foundation (a piece of which I enclose) to be of good quality? 3. Should I now be feeding the bees on soft candy?—F. E. P., *Haverstock Hill, N.W., February* 12.

REPLY.—1. No. 2. Without declaring the foundation to be of impure wax, we don't like it at all, and do not wonder at the bees refusing it. Its taste is suggestive of adulteration, and the refusal of bees to work it makes it very undesirable for use. 3. No. That is, if food is not actually short. February is too soon to begin stimulating.

[1920.] *Judging if Bees are Queenless—Stimulating.*—1. I have a stock of bees which during the winter, owing to the number of bees flying (as I thought, excited), I feared must be queenless, but for the last two or three weeks bees have returned now and again bearing pollen. Is this sufficient proof that the stock is *not* queenless? Should, however, the stock prove to be queenless, could I introduce a young queen in April, the hive at present being crowded with bees? 2. I also want to stimulate another hive for early brood-rearing. Could I do so *now* by giving syrup made according to recipe No. 6 in "Guide Book." I have been lately giving a cake of soft candy, about half a pound every ten days. Will bees also store candy if given too much?—SUFFOLK BORDERER, *February* 14.

REPLY.—1. The carrying of pollen in fairly good quantity usually indicates the presence of a laying queen. If bees are strong, a queen could be introduced in April, supposing that the hive is queenless. 2. Do not give syrup till March is well in. Soft candy will be stored if given in large quantities.

[1921.] *Adding Frames in Spring to Driven Lots of Bees.*—I have two colonies in frame hives formed from the bees of eight skeps driven last autumn. I placed six standard frames in each hive, and fed them with medicated syrup, as recommended in "Modern Bee-keeping." They took down 60 lb. of sugar and filled the frames with plenty of sealed food. I am pleased to say they are both all right, as far as I know, up to the present. What I do not know is, when can I put four more frames to each, to make the ten? I may say the sun shines on the entrance to one hive, the bees of which have been very busy during the mild weather we have had; the other is still shaded by a fence, and so only one or two bees are seen occasionally flying about. I just removed the quilts to see if they had food on one very warm day, and so saw they were all right. I may say I am only a beginner, and should be glad of any advice you could give. —F. K, *Horsham, Sussex, February* 14.

REPLY.—Additional frames should be added one at a time with a week's interval between, and not until the bees require more room. Certainly no operations of this kind should be attempted at present.

Echoes from the Hives.

Tothill, Alford, Lincs., February 11, 1898. —I send enclosed cutting from the *Louth News*. You will observe that the thermometer has never been below freezing point the whole of January—to my thinking a wonderful thing for the mid-winter month. In October last I introduced an Italian queen into one of my stocks, and yesterday (January 10) I saw yellow bees flying for the first time. I have not examined this stock since the alien queen was introduced, but I felt sure it was a success by the way the bees appeared at the entrance of the hive. Stocks are very forward this year, and are likely to be short of stores before nectar comes in.—R. G.

[The cutting referred to reads as under:—EDS.]

METEOROLOGY FOR JANUARY, 1898.

Observations taken during the month of January, at Louth, at 9 a.m. Rain gauge above sea level 111 feet. Latitude, 53 deg. 22 min. Longitude, the meridian of Greenwich.

THERMOMETER.	Deg.	BAROMETER.	Ins.
Mean Temp. ..	42·55	Mean daily	
Max. during		pressure ...	30·22
Month ...	52	Highest	30·59
Min. ditto ...	34	Lowest	29·34
Range	18	Range	1·25

Wind:—S. 1; S.W. 17; W. 10; and N.W. 3 days.

Rain:—1·22 inches on 7 days; greatest fall in 24 hours ·64 inch on the 4th day.

Remarks:—Rainfall ·93 inch below average.

Barometer, corrected to sea level, ·30 inch above average.

Mean daily temperature, 6·75 deg. above average.

Maximum day reading of thermometer in shade, 56 deg. on 30th; minimum reading in the night, 32 deg. on 8th and 23rd, showing a range of 24 deg.

THOMAS W. WALLIS.

Louth, Lincs., February 1, 1898.

Uckfield, Sussex, February 14.—Old King Sol has again started to warm the surface of the earth, and nature is beginning to awake out of her sleep. Everywhere vegetation is starting into growth: the fruit trees are swelling their buds, snowdrops and crocuses are in flower. Going out early in the morning, you may hear the birds singing in every tree; it makes one's heart glad and to feel ready to sing along with them that the "Spring has come!" Alas! cold, dreary March has to follow, with its piercing winds, withering the blossom on the trees ere it has time to set, making the bees draw closer together, leaving their poor helpless babies out in the cold. Just now the bees are working every fine day, bringing in loads of pollen, almost tempting one to have a peep inside, to ask her majesty, "Hoo's a' wi' ye the nicht?" and I have no doubt that she would have the ready answer, "O, brawly! Hoo's yersel'?"—Scot.

DO BEES PAY?

SOME INTERESTING FIGURES FROM AN AMERICAN STANDPOINT.

BY DR. C. C. MILLER.

I have made an honest effort, Mr. Editor, to comply with your request to make a guess at the amount of work involved in getting this year's crop of honey. It can only be a guess at best; but in looking up the meagre memoranda I had to base even a guess upon, it occurred to me you might be interested therein.

Taking the year as you have suggested, from the time of putting bees in winter quarters last fall to this fall's cellaring, I find the bees were carried into the cellar November 16 and 17, 1896, the weather being so warm that we could carry only morning and evening. Four of us carried; but I'll reduce the work in each case, for easy calculation, to the work of one hand, and call it three days' work to cellar the bees; 260 colonies were cellared, ten being packed on summer stands, eight of which lived through. Circumstances were most favourable for getting bees in winter quarters in best condition. November 13 the thermometer stood 13 deg. above zero. November 15 it was 60 deg., and the bees had a fine fly. Then the right thing was to hustle them in before they endured another cold spell to make them fill themselves.

The winter was mild, and no fire was in the cellar till January 27, when it was kept up for four days, the only fire of the winter. March 6, dead bees swept out for the first (ought to have been sooner). Perhaps one and a half bushels dead bees were swept out. March 29 it was again swept, yielding, perhaps, a bushel of dead bees. Aside from this the bees had little attention through the winter, the doors being opened when mild enough, and an occasional excursion made into the cellar to see if it smelled sweet. Altogether, two days' time would probably cover the winter care.

About the middle of March, T tins and supers were cleaned, making, perhaps, six days' work. March 20 we began the work of putting foundation in sections, top and bottom starters, and putting sections in supers. This took, perhaps, twenty-seven days' work, being finished April 21. Two days' work got the bees out April 7, after an imprisonment of 141 days. Eight days' work may be charged for getting the bees to the two out-apiaries, and doing some little work there. In this I count the work of the team as one man, and you will notice I make no mention as to whether any outside help was called in or not, just lumping altogether, and then giving the sum total, just as if the whole had been done by one man.

After the shop work was done, April 21, about ten days would cover the work in the apiaries till May 1.

Then the fun began. It was a mixed season—sometimes discouraging, sometimes encouraging beyond precedent. Some memoranda from my record-book may not be amiss.

May 5. Bees working hard on dandelion and hard maple.

May 9. Apples in bloom.

May 24. Saw a white-clover blossom.

May 26. Have 239 colonies to begin season (I had decided to unite down to 240, but got it one less than that).

May 31. Too cool for several days for bees to do anything.

June 9. Been cold for days—some colonies at point of starvation. Clover very abundant. To-day warm, and fresh honey shakes out of combs.

June 14. Hot. Some supers nearly filled.

June 16. Honey coming in such a flood that some supers are about full, and two additional supers were given to most colonies.

June 17. Mercury 90 deg.; keeps us on the jump to keep up with the work.

June 18. Blocked up the hives ¾-inch to an inch. (Might have been done sooner.)

June 22. Much cool weather.

June 24. First sweet-clover bloom.

June 26. Took off first finished super.

July 2. Have 316 supers on the hives at Wilson's. (That lacked only twelve supers of averaging four supers to the colony. And I may as well say here, that, before the season was over, I was pretty badly scared. Having forty-eight to 120 sections on a hive, pretty well filled with honey, and not a section sealed, and the bees threatening to stop work, was enough to send the cold chills down one's back. As things finally turned out it was all right, but it was running a big risk.)

July 5. Lindens out. (So few they don't count much.)

July 8. Mercury 100 deg. Grand flow.

July 12. Cool and rainy.

July 13. Had terrible day at Hastings. Cold, and bees furious. Have 113 finished supers now in house. Philo empties supers as fast as we take them home; fills supers with "go-backs" (unfinished sections), which we return to hives.

July 14. Robbers trouble.

July 26. Been very dry at Hastings and home, but bees still work at Wilson's. Fine rain last night.

July 29. Bees take fresh hold, and work hard at Hastings.

August 3. Have 10,008 finished sections in house.

August 9. Bees take fresh hold at home.

August 10. Took off sixty-five finished supers at Wilson's.

August 11. Heavy work at Hastings. Have 13,200 finished sections in house.

September 4. Took off all supers.

September 20. Commenced scraping sections, and packing, ready for shipment Oct. 5.

It's a very hard thing to make any kind of estimate as to the amount of time put in from May 1 to October 5. We worked on the eight-hour system—eight hours in the forenoon and eight hours in the afternoon ; but I had a good deal of writing to get in. Sometimes I'd be up at 3 o'clock, and not get to work in the apiary till 9 or 11 o'clock. Then there were some breaks—a week at the Buffalo convention, and some time for Sunday school conventions. (You're mistaken, Mr. Editor, in thinking I spend some time tending posies, and mowing "weeds and things." I had to give all that up, but am blessed with a brother-in-law who has taken the job off my hands, and the only hard farm work I did through the summer was to eat the big strawberries after they were on the table.) After some thinking, estimating, and guessing, I've settled upon 220 days' work as possibly about the right thing for that five months or more.

For the rest of the time till the bees were home (October 18) ready to be put in the cellar, fifteen days may not be out of the way.

Adding up the different items, it makes a sum total of 293 days of ten hours each for the year's work. Dividing it between two of us, it makes 146½ days, or a little more than twenty-four weeks—not quite half the year. I confess that's not as much time as I should have guessed at a lump, but I've tried to guess as fairly as I could at the different items. You're welcome to add or subtract, as you like.

Marengo, Ill., December 10.

[There, now, doctor, I'm satisfied you've given us just the information we wanted. Let's see what the figures mean. In those 293 days for one person, 17,150 lb. of comb honey was produced and marketed. This would make a credit of 58½ lb. of comb honey for each day's work for one person. Putting this honey at wholesale at 10 cents, would make each day's wages amount to 5 dols. 85 cents. From this I take 85 cents. as covering the cost of sections, foundation, shipping-cases, interest, &c., making 5 dols. The rate per day would be the same whether two people were employed 146½ days, or whether one person worked 293 days. Considering that one of the persons was your sister, and that you yourself the other one, are not as strong as the average of men, the rate 5 dols. per day for each of you is not bad.

Perhaps, doctor, you don't care to have your private income lugged before the public in this fashion, especially when some other fellow makes the figures. But if those I have made are not far from right, they go to show what *can* be done in a good year by a good bee-keeper.

Say, doctor, we shall read your articles more closely than ever from now on, to see if we can do as well, some of us. While I believe you sold your honey for more than 10 cents., I suppose it is but fair and right that we say you can't average such a yield from year to year, or at least haven't done it, owing to poor seasons.

But, say ; I can't help feeling that raising those hives up ¾ inch off the bottom is very important. Can you tell us how much honey this saved for you, or how many swarms it prevented ?—Ed. *Gleanings*, American.]

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

O. J. K. (Somerset).—*Suspected Combs.*—The frame of comb received contains only good honey, wholesome pollen, and a few cells in which the honey is white through granulation. There is no trace of chilled brood, or brood of any kind, so it is clearly free from disease.

E. B. (Andover).—*Exhibiting Honey at Shows.* 1. Nothing that we could say in print would afford a tithe of the help you ask for with regard to exhibiting honey, compared with the advantage to be gained by visiting one or two good shows. You would then see for yourself what to aim at and strive for when prizes are in view. 2. There are now few counties, in which Bee Associations exist, where one or more honey shows are not held annually. As the show season draws near, full information as to dates and places where held will be found in our columns, under the heading of "Bee Shows to Come." 3. Such work as preparing sections and supers for use by the bees is fully detailed in all guide-books on bee-keeping.

Saxon (Llanberis).—*Bee Flowers.*—Referring to your communication on page 50, we are requested by our correspondent, "Lordswood" to express his regret that owing to pressing business he has not been able to reply (to what is, to our editorial mind, rather a "large order" in queries) yet, but will endeavour to do so in next issue.

F. V. (Kenilworth). — *Humorous Lantern Slides on Bee-keeping.*—Our correspondent asks if we or any readers of B.B.J. will inform him if there are lantern slides illustrating the humorous side of bee-keeping. Perhaps some reader better acquainted with such things than ourselves can give the desired information.

Editorial, Notices, &c.

COUNTY COUNCILS AND BEE-KEEPING.

The bee-keeping of Wilts was a short time since described in our columns by a correspondent as in a state of somnolence, but we are glad to observe in the report recently issued by the Agricultural Committee of the Wilts County Council that Wilts is decidedly waking up. Those who study the question of technical instruction in bee-keeping would do well to write to the Secretary of the Wilts County Council (Mr. C. H. Corbett) at Trowbridge for a copy of this report. It will be seen therefrom that four bee-keeping experts were employed to give instruction at a total cost of £44 12s., and for that sum they have instructed 475 pupils at thirty-nine centres. The said instructors have visited and carried their teaching into 192 apiaries, and the collective total of distances travelled amounts to over 1,500 miles. The report is really exceedingly instructive, especially as it is the first campaign of the kind in Wilts. What strikes us as so commendable is the practical way in which the work has been managed and the economical outcome of the experiment. The Committee have no doubt profited by the experience of other County Councils, and have not confided blindly in either the Bee-keepers' Association or the individual expert, but have paid on results, and insisted on a proper return being sent in of work done. This report, along with the comments of the experts, affords a lot of most useful information. The experts employed were Mr. J. W. Spencer, Atworth; Mr. E. H. Smith, Warminster; Mr. A. Cameron, Malmesbury; and the Rev. W. E. Burkitt, Buttermere Rectory, Hungerford. Wilts has, therefore, not only woke up, but has also gone to work in right good fashion, and we have no doubt our correspondent who described the county as somnolent will be as pleased as any to find that if many of the Wilts bee-keepers are in a sleepy state, and have not advanced beyond sulphur and the straw skep, its County Councillors are alive to the necessity of technical education in bee-keeping; and they seem to have got good money's worth for all they spent last season. We are also glad to hear from an outside source that the grant will be renewed for the coming year.

THE NEW STYLE OF SECTION.

EXPERT OPINION THEREON IN AMERICA.

The advent of the new style of section, regarding which so much has been said of late, is apparently being looked forward to with a good deal of interest, even on this side the Atlantic. We already know of two forms of separator intended for use with these sections being registered, and a third is, we understand, nearly ready for the same form of protection against imitators. It therefore goes without saying that bee-keepers will have full opportunity for testing the whole question, whether or not there is good in the "new-old' idea of a cleated separator and a plain section. We have already—in our issue of January 27—given to readers what seemed to us good and sufficient reasons for not too readily concluding that future sections of comb-honey, worked on the new plan, will be so entirely superior to anything before seen as to sweep the bee-way section out of sight for ever. But in order to afford full opportunity for judging, we propose to present in our pages that very necessary adjunct to a wise decision, known as "both sides of the case;" in other words, to give the published views of those best qualified to speak, as they appear in the pages of our esteemed American contemporaries.

Our extracts in this issue are "For" the new section. In that of next week we shall quote an article "Against," and if occasion requires it, we may go still farther. Meantime, we are glad to know that several of our appliance-dealers, while continuing to rely mainly on the usual form, are importing some of the new sections for trial, and one or two dealers are having a few of the actual cleated separators of wood made and approved by the A. I. Root Co., so that these may be worked alongside of and compared with British-made separators.

Mr. J. E. Crane's views, as given below, appear in the *Bee-Keepers' Review* for January last, and read as follows:—

"Mention has been made in our bee-journals of what is called the 'No Bee-way Sections'; a very clumsy name for one of the neatest sections ever made; a section where the top, bottom, and sides are of the same width. It seems to me that the word 'simple' would be a better name, and this is more simple in construction than those where the sides project an eighth of an inch beyond the top and bottom.

It is claimed that these sections, when used in connection with what is called a 'fence' (which is simply a separator made of narrow

strips of thin wood with passageways between them for bees), will be better filled with much handsomer combs, that will grade higher, and sell for one or two cents a pound more than honey in the old style of sections. These sections can also be more easily cleaned, and will hold more honey for their size, &c. Now, if these claims are all true, the adoption of them marks a new departure in bee-keeping.

If such honey would sell as is claimed for an extra cent per pound more than in ordinary sections, this would have made a difference with me in the last two years of several hundreds of dollars—an item of no small importance, and I have felt the subject should be most carefully investigated, as it would cost me several hundred dollars to make the change in sections, separators, and clamps.

That these sections when well filled look nice, no one who has handled them can deny; but will it pay the cost of changes for the bee-keeper who is now well supplied with clamps, separators, &c.? This is the great question with me.

Right here I may as well say that there are one or two disadvantages in this style of sections. My experience has been that they require more careful handling than ordinary sections, or they will be marred and set to leaking. The projecting sides of a section are a great protection to the comb, even though it be but one-eighth of an inch. As most of the honey in this State is sent to market in paper cartons, if the paper box is made to fit the well-filled new style of section it will be much more likely to be injured by handling, as most persons who take up a box will do so with the thumb on one side and fingers on the other, and thus press the comb and set it to leaking. Where paper boxes are not used this last objection will not hold. In shipping these simple sections to market I have found it a saving of $16\frac{2}{3}$ per cent. in packing cases—quite an item in their favour.

It has been a great query with me whether the new style of separator, or 'fence,' was not of much more value than the simple *section*. I have long wished for a perforated separator that was cheap and practical. The one I now use is $3\frac{1}{2}$ in. wide, giving the bees free communication with the sections on each side, both at the top and below, and seems to answer very well, the bees entering promptly in spring and storing as long as the harvest lasts.

How much honey is lost by compelling the bees to build their comb in small compartments is one of the unsolved problems. I have sometimes thought perhaps one-tenth or more; but as the small packages sell for considerably more than large ones, it has seemed about an even thing. If, now, instead of the separator we have an open fence between sections, so open that the whole surplus chamber shall seem to the bees to be as one large receptacle, there is reason to believe that the sections will be better and more handsomely filled than with present arrangements, and also more honey stored. And yet, as I frequently find colonies at the close of the harvest that have stored nearly or quite all of their honey in the sections, leaving almost none in the brood chamber, I have wondered if they would have done better or stored more had I used 20-lb. boxes instead of 1-lb. sections.

Again, I have wondered if the very favourable season has not had something to do with the fine appearance of combs where the open separator was used. Combs are likely to look well where the more common sections and separators are used, in such seasons. But it cannot be denied that the simple section with the same amount of honey in it looks better than the section with its projecting sides.

And now let me tell the reader how the ordinary section can be made into a simple section after it is filled with honey, for there are many, like myself, who cannot readily make the change at once from one kind to the other, even if it proves to be all that is claimed for it. For many years I have taken a part of my honey and put it in this shape for market. I select the heaviest clamps and put them on a 'Barnes' saw, and slice off the projecting edges, and then pack in shipping-crates with one or both sides of glass.

Sawing the edges off brings the honey within abont one-sixteenth of an inch of the glass, and the appearance is better than in any other way it can be packed.

I have now arranged an arbor for a Barnes saw-table so I can put on two saws just one and nine-sixteenth inches apart. Now, it will be readily seen that by having a gauge just right, I have only to run the four sides of the section through and all the edges are left clean and white—in fact, much neater than they could be made by hand scraping. By this process we not only get rid of the side projection of the section, but clean it at the same time—clean it by machinery, if you please. The saw, or saws, should be set so as to come just one-eighth inch above the saw-table, or just through the section, as, if it goes much higher, it is liable to injure the comb.

I do not know how many tons of honey I have put up in this way, but I do know it has always proved a success, so far as neatness and appearance are concerned. I have never kept a close account of the time spent in this cutting or sawing down edges of sections, but think a strong man could saw down about as many in a day as he would clean of propolis, perhaps more.

But have I realised a cent more per pound for this honey than that in the more common section? I think I hear some one ask. I am sorry to say I have not. Perhaps if I had sold direct to the retailer I might have realised more; but it was sent to the city and sold at the same price as honey of the same grade in the ordinary section. But I might add that it has really sold *more promptly*, and, on a falling market, this would sometimes amount to a cent

a pound. Nevertheless, as honey is more attractive put up in this way, I believe all beginners, at least, should carefully investigate its merits when deciding on what style of section to use."

BEE-KEEPING IN DURHAM.

AN ASSOCIATION FOR THE HARTLEPOOLS AND DISTRICT.

A meeting was held at Dalgleish's Café, Lynn-street, West Hartlepool, on the 16th inst., for the purpose of considering the advisability of forming a Bee-keepers' Association for the Hartlepools and district. Mr. John Ironsides was voted to the chair.

The Vicar of Grantham wrote that if it was decided to form a Bee-Keepers' Association he would be glad to become a member, and he would give any assistance he could in furtherance of the objects of the association. Other gentlemen also wrote expressing willingness to join the association if formed.

After discussion, it was decided to form an association, and Mr. Robinson (Greatham), Mr. Henshaw, Mr. Gill, and Mr. Ironsides were appointed a committee to formulate rules, &c.

It was decided to have another meeting in a fortnight for the purpose of appointing officers and drawing up rules. On the conclusion of the formal business of the meeting, Mr. Robinson read a paper on the management of bees, which was much appreciated by those present.

IRISH BEE-KEEPERS' ASSOCIATION.

The Committee met on 17th inst. Present: Dr. Traill, in the chair, Rev. J. G. Digges, Mr. O'Bryen, Mr. Farrelly, and Mr. Chenevix (Hon. Sec., 15, Morehampton-road, Dublin). The agents for sale of honey in Dublin having complained of the great trouble and difficulty involved in the system of returning empty cases, the Committee resolved to take advantage of the arrangements under which the railway companies convey farm produce at reduced charges in cheap boxes, for use once only, on sale at all stations.

THE SOLAR WAX-EXTRACTOR.

BY ALEX. SCHRÖDER.

The solar wax-extractor was originally invented by the Italian Leandri, and has since passed through various modifications, all tending to add to its usefulness, but without yet attaining to perfection.

The idea of using the heat of the sun for extracting the wax from honeycombs is, no doubt, very old, and will, probably, have occurred to the mind of many a bee-keeper, especially such of those as live in southern climes. Personally, and as a bee-keeper, I always looked forward with some dread as the time approached for the coming wax extraction of each season, and the whole house usually was in a state of excitement, not about the wax to be produced, but for the general cleaning-up which followed every operation in that line. Every means was tried for the purpose of lessening the disturbance, but all ended in failure, and I sought in vain for some means of attaining my object.

Many years ago I cut a piece of newly-built drone-comb out of a frame, intending to use it for some purpose. Before doing so, however, I carelessly laid it for a time on a board in the sun. On returning, after a while, for that piece of comb, I found little beyond a greasy spot on the board—the comb had been melted away by the rays of the sun! After that involuntary experiment I tried to use the same source of heat, but without success. The sun melted the combs well enough, but did not separate the wax from the husks, as required. About this time (early in 1882), it was stated in the *Apicoltore* of Milan, by a visitor to the national exhibition in that city in August, 1881, that a certain Giuseppe Leandri, of St. Giovanni in Croce, near Piadena, had invented a solar wax-extractor, by means of which fine wax was obtained, by simple exposure to the rays of the sun. In the same issue of the *Apicoltore* it was stated that Professor Angelo Paglia had, in the previous year, a similar wax-extractor on view in Palermo; but as none have since questioned Mr. Leandri's claim to being the original inventor of the solar wax-extractor, I suppose he will be generally accepted as such.

Shortly after the time I refer to, and as soon as the sun's power had sufficiently increased, I had a "Leandri" extractor at work, and it produced wax of excellent quality. But the melted wax, as it ran from the spout of the apparatus and came in contact with the open air, at once became chilled and solid. In very hot weather and when there was not the slightest breath of wind, the "Leandri" solar wax-extractor did its work fairly well. But only when Dr. Angelo Dubini, of Milan, hit upon the idea that the melted wax had to be collected in the sun-heated apparatus itself, did it become clear to me that the solar wax-extractor was of real practical use.

I got one of Dr. Dubini's solar extractors (first described in the *Apicoltore*, in November, 1883), and subsequently improved by Mr. Giacomo Guazzoni, Golasecia, illustrated on pages 144 and 145 of the May number, 1884, of that journal, and was highly satisfied with the same. So much, then, for the past history of the solar wax-extractor. Of course, this appliance can be made in various forms, and will, no doubt, give satisfactory results, as long as the main features in its construction are kept in mind. But it is important to bear in mind that a solar wax-extractor may give good results in a southern climate, and yet be far

less satisfactory in places where the sun shines with diminished intensity, and less continually. In the latter case greater care in the construction will be needed. The main points, therefore, to be observed in attaining the desired end are—(1.) The body of the extractor must be of non-conducting material. (2.) The melting plate and receiver for the liquid wax must both be exposed to the full force of the sun's rays. (3.) The sun's rays should strike as nearly perpendicular as possible on the combs or cappings intended to be reduced into wax. These advantages are secured by using, first, a double walled box, second, a zinc melting plate, a movable lid, and, third, a reflector.

(To be continued.)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

"WHERE THE BEE SUCKS."

[3167.] Your correspondent, "Saxon" (p. 50 of B.J. for February 3), is right in supposing that I have some knowledge of the flora of our fields and gardens. I feel, however, that my knowledge is so small, considering the vastness of the subject, as to be of little real value to bee-keepers. Of garden flowers there are many that would be of much value to our bees, could we but afford to plant an acre or two of each particular kind; but this we cannot do with profit unless the flowers yield a harvest of fruit also, such as the raspberry, currants, gooseberry, strawberry, &c. Providence has favoured us in arranging our fruit trees to be excellent honey trees too, and many of our field crops are prodigious honey bearers—witness beans, mustard, sainfoin, clover, &c. There are few districts in Britain so barren as to have none of these sources of supply; the barest hills and rocky mountainous counties, are they not perfect gardens of flowers? Ling and heather, clover and trefoil, horseshoe-vetch, thyme, tormentil, bilberry, broom, dyers'-greenweed, wood-sage, sheep's-bit, scabious, harebell, centaurea, betony, blackberry, marjoram, stonecrop, prunella—I could go on for a week! As to trees, think of the legacy our forefathers—our "rude forefathers," as Keats hath it—have left us: lindens, sycamore, holly, damson, plum, apple, pear, cherry, American currant, almond, peach, &c. When I see the wealth of blossom in every hamlet in May, I say to myself, "Not so very rude or wanting in forethought, after all!" Be it remembered that no man plants timber or orchard trees expecting to reap much benefit thereby himself. I often think of the benefit that would accrue to future bee-keepers if the various County Associations would spend a little money in raising a few million linden trees and go out after dark and plant them along the treeless hedgerows. No need to raise sycamore, for, at this time of the year, under most trees may be found, the seeds germinating—those seeds we used to call "bunches of keys"—you will find the one wing that bore them gently to the ground rotting away, and out of the brown coat that protects the germ one little root extending. A silent supplication to some good Samaritan to make a hole in the ground, or rather to lay it in the cradle Nature made for it. This is a pleasing occupation for Sunday mornings, granted that you have no time during the week.

I have said plants must produce a crop of fruit, as well as flower, to be profitable; but on further thought I must qualify this by saying that one of the pleasantest signs of the times is the fact that scores of acres in the vicinity of large towns are now planted with popular flowers for the market, and in Lincolnshire farmers are turning their attention to the growth of large areas of bulbous plants, such as snowdrops, crocus, scillas, tulips, narcissus, hyacinths, &c., the conditions of soil and climate being considered quite as suited to their growth as the climate and soil of Holland. Indeed, I should say the climate is more favourable, not being so cold in winter. It would be interesting if bee-keepers in these districts were to report as to whether their bees derive material benefit from these sources. Snowdrops, scillas, and crocus ought to be valuable in such breadths, and likewise *Helenium pumilum* (dwarf coneflower), *H. Autumnale*, *H. Bolanderi*, *Stenactis speciosa*, *Rudbeckia Neumanni*, *Eryngiums* and *Echinops* (sea-hollies and globe-thistles) in variety; *Gaillardias*, *Coreopsis*, *Aster amellus*, &c.

I have seen many acres of narcissi, but do not consider them of much value to hive-bees, especially the trumpet kinds (daffodils), called *Magnicoronati* in science, or the many kinds that have been raised between these and the true narcissus—*N. poeticus*; and which are called *Medicoronati*. The true narcissus, the old pheasant-eye, the sweet-nancy's of our happy childhood, the matchless snow-white petalled, deliciously-perfumed "flower of May" of the poets, of the sunny meads of southern France and the Pyrenees, however,

is well loved of the bees. How can they help loving so glorious a flower?

Unfortunately, this flower-farming is subject to the same law—that of supply and demand being equally balanced—as other commodities. For instance, near my old home, the market-gardeners and allotment-holders used to do well with potato growing, until the farmers took it up too. Then prices fell to 30s. or so a ton, and this did not pay, as you may imagine; so they all went off on another tack and took to growing cabbage, broccoli, cauliflower (much the same thing), peas, beans, and the like, and the consequence was that the market was so glutted with these things that they soon fetched little more than the cost of the haulage. So the men all met together in the village public and decided, after much discussion, to plant strawberries and raspberries. The ground and climate are excellent for these, and for the past few years these crops have paid handsomely. And this is the result, that "much, wanting more," as the saying is, they have taken more land, and others have been tempted to invest, and so, this last summer, many hundredweights of strawberries were sold for 1d. per lb.! Potatoes are dear again this winter, so I expect to see them digging the strawberries and raspberries in very shortly!

There are a number of County Councillors residing there, and it seems to me it would be well if they were to council these men to use a little common sense. Arrange, for instance, that Tommy Dobbs should grow the "taters," and Matthew Mugg the peas, and Dick Tubbs the raspberries, and so on. But, as a man said to me, "if you were to hit them on the head with a sledge hammer, you couldn't knock sense into them!" They will repeat the old routine! Some will find a new gap and jump through, and all the rest will follow!

If the demand for flowers should cease (Heaven forbid); if the supply should be much in excess of the demand; then great breadths will be dug in regardless alike of the city people and country hive-bees.

The production of those crops, from which our bees glean their harvest, being in other hands than ours, it only remains for us to help them a little with pollen-bearing flowers in spring and autumn, when wild flowers are scarce or entirely absent. Snowdrops, crocus, *luteus*, *Scilla siberica*, and *Scilla bifolia*, *Chionodoxa lucilleue* and its varieties should be planted in large masses (the seed of all these should be saved and sown), and for autumn, *borage*, *solidagos* (golden rod) and American balsam.

Lastly, and for the sake of those who desire to see their bees busily employed throughout the summer in their own gardens—I must admit I am one of these—I will give a list of those flowers which I have noticed are particular favourites of our bees. These have been selected from a collection of about 2,000 species and varieties, and during many years my observations tend to show that there are very few flowers entirely disregarded, that the bees are fonder of the more insignificant flowers than the more gaudy, that one season they will work a flower and the next pass it by that the plants that like best an open sunny situation and dry soil are the chief favourites, and that a good-sized bed, say 6 ft. by 4 ft., of each kind should be grown.

As a general rule, spring and early summer flowering plants should be divided and replanted at the end of August or early September, and late summer and autumn plants in March and early April; although many may with advantage be replanted in October, November, and during mild spells throughout the winter.—LORDSWOOD.

(To be continued.)

LEGS FOR HIVE STANDS.

[3168.] Your correspondent, "Q. P.," Kingswinford (1917, p. 67) having had some difficulty in making the stand for the "W.B.C." hive, may I suggest (being a joiner and having made several for myself), that he has the wood for legs 3 in. each way or $2\frac{1}{2}$ in. if oak, then set out the leg with collar full size to get the bevel of shoulder; mark the bevel on end of leg and cut it as shown by dotted lines in your description, fig. 9, February 8, 1894. If a set square is laid flat on end of leg just cut, he will see that a bare $\frac{1}{8}$ in. will have to be planed off the two outside faces from outer edge to nothing. Now mark shoulder line on two outer faces $2\frac{1}{2}$ in. down from end, and cut out $\frac{3}{4}$ in. for collar at shoulder to nothing at end, as you show in fig. 8 in your description. When "Q. P.," applies the square it must lay in the same rake as shoulder or end of leg, and he will find that the more the legs are made to splay, the more they will require planing out of square on outer sides. If the legs are the same size they will not want to be set out in pairs, as they will do for either corner.—NEMO, *Oxon, February* 21.

[We shall be very pleased if the above description (by a practical joiner) of the method of leg-making is found helpful to amateurs generally. At same time it should be added that the details, with sketches to illustrate the method of cutting the leg from a piece of 3-in. scantling, given on page 60 of B.J. for February 8, 1894, were written by a practical joiner, and we may safely suppose that many thousands of "stands" for the "W.B.C." hive have been made therefrom.—EDS.]

WIDE *v.* STANDARD SPACING IN SUPERS.

[3169.] In the B.B.J. for January 20, page 26, in reply to F. P. Smith, in (1894) you say, "We will be glad to have the views

of readers who have had practical experience of both wide and narrow spacing in supers.

Having used th wide "W.B.C." ends since they were first introduced, I should like to say that I find the advantages obtained by wide spacing are to me a saving in labour, and to the bees ditto. The bees have a little less comb-building to do, and I can extract more honey from less combs. I must add that I only adopt the wide spacing with ready-built combs. Combs worked in wide spaces will take up much more room when packing away for the winter if left as they are. but I take a sharp knife and slice off each comb down to the frame on both sides before storing away, the combs then only require half as much room. I get a nice lot of good wax, much of which would have been wasted by the action of the air, and the fact that the combs require a little fresh facing does not annoy the bees in the least when the hives are supered with these combs. At any rate, they seem to work all the harder. It is better for the combs that the entire face should be renewed when they are kept for use year after year, and I know the bees do remove a good deal of the face of combs that have been much exposed to the air, and have in consequence lost the wax that they contained by its action.

I have enough good surplus combs, standard and shallow, for my bees to store 3 cwt. of honey in. Some of them are as clean as they were in their first year. I am now thinking of those of my combs that are eight years old. These combs take up a good deal of room in winter, but, next to the bees, I consider them my most valuable stock. I find drone-base, super foundation, best for shallow-frames. It not only looks much better while full of honey, but it is easier to extract, and bears, without damage, all the power I can put upon the centrifugal force of the extractor. While speaking of foundation, I should like to add that "Weed" foundation gave me perfect satisfaction last year, a feeling previously unknown to me in connection with comb foundation.—WM. LOVEDAY, *Hatfield Heath, Essex, February* 12, 1898.

WEATHER REPORTS.

[3170.] I notice on page 68 in this week's JOURNAL some observations regarding weather, &c., taken at Louth, Lincolnshire, during the month of January last. It may interest readers to compare the weather of Lincolnshire with that of the Isle of Man weather during the same period. Enclosed is a cutting from the *Isle of Man Times* of February 12.—LANCELOT QUAYLE, *Glenmay, Isle of Man, February* 18.

[Cutting referred to reads as follows.—EDS.]

"January, 1898, is distinguished by having been the warmest January on record in the Isle of Man, and it is not only the warmest January, but the Point of Ayre records, which date from 1830, show that it had a higher temperature than any December, February, or March since that year. Thus, the average temperature of January, 1898, was 48·89, the next highest January, 46·63, in 1843; the highest December, 48·24, in 1882; the highest February, 45·49, in 1869; and the highest March, 46·09, in 1893. The average temperature of January, 1898, at Cronkbourne, is 47·35, which is 7·50 above the mean, and, though much lower than at the Point of Ayre, is in the same position as being higher than that of any other January average temperature recorded. The rainfall of the month has been less than usual; with not much more than half the average amount of sunshine. Barometrical pressure: Average, 30·194 inches; highest, 30·576 inches, on the 15th, at 9 p.m.; lowest, 29·334 inches, on the 1st, at 9 a.m. The highest shade temperature, 55·4, on the 30th, is also a record for January, as is the highest temperature in the sun, 100·0 on the 22nd. The lowest shade temperature was 31·9, on the 1st, the only day on which there was any frost. The lowest grass temperature, 25·0, was on the same day. Rain on 17 days, 2·754 inches, being 1·626 inches below the mean. Greatest fall, 0·822 inches, on the 2nd. Duration of sunshine, 27·1 hours, being 23·1 hours below the mean."

BEE-KEEPERS' AND CATALOGUES.

AN APPLIANCE MANUFACTURER'S GRIEVANCE.

[3171.] We live in a day of marvels, and not the least marvellous thing that we are thankful for is the glorious privilege of the halfpenny and penny post. Any one wanting a catalogue of bee appliances, for instance, has but to express his want on a halfpenny post-card, address to one of your advertisers, and in twenty-four hours, or less, he has his want supplied. But really, sir, we bee-appliance makers do marvel also that the simplest postal regulations as to the sending for that catalogue are so regularly overlooked and disregarded by educated and uneducated folks alike, who are bee-keepers, and our wonderment bids fair to become a substantial grievance. I enclose you one of half-a-dozen epistles received this week, and during the twelvemonths I get every week three or four such. Now, Messrs. Editors, I am but one of a number of dealers, and in the name of our class I ask can you find it in your hearts to gently draw your readers' attention to the very simple regulation that every letter *enclosed in an envelope*, even if *not sealed down*, and though it be only a request for a catalogue, must bear a *penny stamp*. When only a half-penny stamp is affixed we have to pay a penny surcharge at this end. We do not know till we have opened the envelope what is in it, and not to give offence we do not like to refuse the letter, so pay the penny, but surely your readers ought to know better.—GEORGE ROSE, *Liverpool, February* 21.

OUR WILD BEES.

INTRODUCTORY.

[3172.] With the Editor's kind permission I am going to try to give a short account of our wild bees as they appear through the summer, commencing with two introductory articles to make the subject more intelligible and interesting. The subject is, indeed, so extensive that I can only hope to skim it in a popular way, and the object of my endeavour will be well attained if it puts any one in the way of gaining a fraction of the pleasure that I can testify to have derived from the pursuit of this interesting branch of natural science; or still better if it is the means of adding one to the little band of students in it. Nature quickly repays careful observers in any branch of her science with interesting discoveries. The study of the wild bees commends itself to the bee-keeper. He can trace in them the successive stages of development that lead up to the masterpiece in this branch of the animal kingdom, namely, the honey-bee.

It comes as a surprise to many people that about 200 different species of bees have been found in this country, besides the honey-bee we know so well. I am sometimes asked whether these wild bees "make honey" in the same way as their domesticated ally, and if so, why they are not tamed and kept? It is true that the wild bees feed entirely on nectar and pollen, but with the exception of about twelve species of Humble-bees (*Bombi*), they are solitary in their habits, that is, they do not live in colonies like the honey-bee, and there are, of course, no workers to wait on them—only males and females. The male bee lives only for a few days, flitting about in the sunshine, and leaves to his mate the entire task of providing for her young, for which a longer lease of life is given. She generally excavates a burrow in the ground, at the end of which a pellet of pollen moistened with honey is placed, on which the egg is laid. With some genera, however, the burrow is made in the centre pith of a dead bramble stem, with others, in the whorls of an empty snail shell, in a hole in a wall, or in the disused tunnels of some beetle maggot in an old paling. In several genera the females slip this business by laying their eggs in the ready-formed burrows of other wild bees, so that when the little intruder hatches it destroys the rightful egg and subsists on the food which was provided for it; thus these bees are called cuckoo or *inquiline* bees. Each species of inquiline usually limits its attacks to one species of pollen-collecting bee.

The different species of wild bees may be met with throughout the spring and summer frequenting honey and pollen yielding flowers, the females also at their burrows, with the males generally hovering about not very far off. They fly freely only in warm sunshine. In early spring, when the sun goes suddenly behind a cloud, it is sometimes curious to see how all life seems to have deserted some grassy bank which, only a moment before, was perhaps swarming with *Andrenæ*.

The morning is the best time to go out collecting. The apparatus required is very simple, merely a small net and a killing-bottle. These will be described fully in a later paper.

Much difference of opinion exists as to the best way of preserving the *hymenoptera*. Some set their specimens, others do not; some prefer their specimens low, on low pins, others high, on high pins; some, again, prefer to keep their collection in boxes, others in a cabinet. It will be unnecessary here to enter into the merits or demerits of one plan or another. It is, however, clear that, as with the size of frame in our hives, whatever plan be adopted, it should be adhered to throughout the collection. Nothing looks worse or is a greater annoyance to an entomologist than to have his specimens on all heights of pins, a few set in one style, a few in another, with, perhaps, the greater number unset and arranged anyhow in odd cases and drawers. My plan is to set all large or moderate-sized specimens on Kirby & Beard's No 3 (1¼ in. long) entomological pin, a third of the way from the top; underneath I run on a small paper label, showing the locality and date of capture. Smaller specimens are mounted in the same way on fine steel pins of the same length. Setting, however, requires much time and patience, especially with small insects, and an unset collection does not look at all bad if neatly arranged. Unset specimens at any time may be relaxed and set at leisure. The longer No. 1 pin gives more room than the No. 3 for the paper label, but it is too long to go comfortably into the 14 in. by 10 in. store-boxes usually sold, which are corked on both sides. These store-boxes look very well when varnished, and my collection of both British and foreign bees is kept entirely in them. A collection kept in them has the advantage of being capable of increase in any direction, and *ad libitum*, without any trouble, and I find them far cheaper and more portable than a cabinet. A small quantity of powdered naphthaline—not the cheaper crude albo-carbon supplied by many chemists—should be placed in the cell provided for it in each box; this, if replenished from time to time, will effectually keep out mites and other foes, but the two halves of the box should be well made and close-fitting. The collection must be kept in a dry place, and brightly-coloured specimens should not be constantly exposed to a strong light, as this will cause them to fade.

I hope in my next to show how the chief genera of our native bees may be easily separated by the observance of a few simple characters, and then, if the sun has returned far enough, armed with net and bottle, we shall be ready to take our first ramble in the field and discuss our captures together.—F. W. L. Sladen, *Dover, February* 12.

(To be continued).

Queries and Replies.

[1922.] *Working for Combs Only.*—Will you be so good as to inform me whether it will be possible and practicable to devote in the coming season two or three swarms of bees in bar frame hives solely to the following uses:—1. Comb-building for spare standard frames; full sheets of foundation being used? 2. Comb-building for supers, in order to reduce as far as possible the use of manufactured foundation; for this latter purpose to use only starters in non-wired frames from which the comb could be cut and fitted into sections. 3. I presume that the process would have to be carried out above the brood-chambers with queen excluders, and that the combs would have to be emptied with an extractor at the end of the season and afterwards cleaned up by the bees? I trust I have not written you at too great a length, but I cannot find any information in books at my disposal bearing directly on this apparently important subject. If, therefore, you would tell me where I could read it up I should be greatly obliged, or if you think the subject of any importance to bee-keepers generally you would confer a favour on your readers by an article upon it.—T. G. B., *Milverton, Somerset, February* 9.

Reply.—We are not aware of any one having devoted swarms of bees exclusively to comb-building from starters only, but so far as building out comb-foundation at such times as honey is scarce, this is dealt with, and the method described, on page 111 of Cowan's "Guide Book" under the heading of "Feeding to Produce Combs." We fear, however, no method of working swarms for the sole purpose of building combs for use in after years would be satisfactory. It involves, in our opinion, too much of constant attention and of interference with the work of a colony to be entirely successful. The most useful modification of the method of employing bees in building combs for use in sections is given in by Mr. Simmins in his "Modern Bee Farm."

[1923.] *Preserving Honey.* — I have a quantity of honey in 1 lb. and 2 lb. jars, surplus, which I want to keep till next honey season. 1. What temperature should I keep it at? 2. Should all ripe honey granulate if kept at the proper temperature? 3. Is there any danger of granulated honey fermenting when it softens after the warm weather sets in? 4. Is the enclosed piece of paper good enough for tying down the bottles of honey? —J. W. B, *Pembrokeshire, February* 19.

Reply.—1. Store it away in a cool, dry place if granulated. If liquid, keep it where the temperature is about 65 deg. Fahr. 2. All honey will granulate in winter if kept at a sufficiently low temperature. 3. If honey is ripe before granulation, and properly cared for afterwards, it will not ferment. Keep it in air-tight jars or tins, and in a warm dry place after re-liquefying. 5. Paper sent is too thin for covering jars, unless used two or three-fold. It is not perfectly air-tight, either.

[1924.] *Re-queening of Vicious Stocks.*—1. I have a straw hive of bees with very spiteful tempers. They seem perfectly strong and healthy, but are very difficult to handle. Would it be possible for me to introduce a Carniolan queen into the skep now? 2. If so, would she fight with the queen that is there now? 3. Would the unrelated queen, if allowed, cause an early swarm? 4. Or would it be better to wait until a swarm issues in the usual way, and then, before hiving in a frame-hive, take away the queen, and put a Carniolan in her place? My wish is to get a race of better-tempered bees. Hoping my questions are not foolish ones. I am quite a beginner, and have just joined the B.B.K.A., and wish to make the very best of my bees. 5. Would the proposed arrangement of using two queens, as in question 4, be called "artificial swarming"?—Ignoramus, *Surrey, February* 19.

Reply.—1 and 2. To introduce an alien queen into a strong stock having a mother bee of their own (as those in skep are stated to be) would mean certain death to the stranger. Of course it is possible to re-queen a hive even so early in the year as this, but, for any but an expert, it would be courting failure to make the experiment. 3. No, at least not of itself. 4. The same risk of changing queens applies in this case as is mentioned above, *i.e.*, the need of a practical and experienced hand, in carrying out the operation. If, however, you read up the several methods of queen introduction, and carefully carry out the instructions given in any good book on bees, it may be done with every chance of success. Our difficulty in advising such bee operations arises from the fact of our correspondent being "quite a beginner" (and a lady, too), while apparently having no book on bees at hand wherein full instructions may be read and mastered. 5. No, artificial swarming is a different matter.

[1925.] *Measurements for Shallow-Frames.* —1. I read in the Bee Journal that a shallow-frame box should be 6 in. deep. I have made some, but on trying the frames in them I find that there is $\frac{7}{8}$ in. space between the bottom bar and top bar of brood-nest. Is this the right distance? The shallow-frame I have by me is just $5\frac{1}{2}$ in., including top and bottom bars, outside measurement. Top bar is $\frac{3}{8}$ in., which, I suppose, is the proper size? 2. Is enclosed wire right for wiring frames?—D. H. F., *Ross, February* 19.

Reply.—The "right distance" is a *bare* $\frac{1}{2}$ in. got by using a shallow-frame $5\frac{1}{2}$ in. deep (over all), in a 6 in. box. This "box" fitting flush with top bars of brood-nest, we cannot see

where the $\frac{7}{8}$ in. space comes in. As a matter of fact, the $\frac{1}{2}$ in. space below bottom bars of shallow-frame is almost invariably reduced by shrinkage after using a season, so that there is less than a full $\frac{1}{2}$ in. between top bar of brood combs and bottom bar of the shallow-frame, if all measurements are carefully adhered to. 2. For wiring frames the proper material is No. 30 tinned wire. That sent may do, but it seems thinner than the size named.

[1926.] *Returning Frames to Hives after Wintering.*—In packing up my single colony, (a '97 swarm), for winter, I removed three frames from brood nest, and left the bees on seven. Two of the frames had honey in them, which I extracted. In the other, the foundation was only partly drawn out. I wish to know in what position it will be best to place these frames when returned to the hive, and when I should return them.—HUMBLE B., *Heaton Moor, Stockport, February* 15.

REPLY.—Give one frame of comb when four or five combs in the hive are fully covered with bees, placing it right in centre with two good seams of bees on each side. Defer adding any frames, however, until weather is warmer and more settled. Ten days later, if no frost occur, a second comb may be given, again in centre, if favourable weather continues. But should it be cold and uncertain, place the added frame of comb *outside* those already in the hive to save risk of chilling brood.

[1927.] *Bee Farms near Dwelling-houses.*—I am writing to know if I should be allowed to start a bee-farm of between thirty and forty hives in a locality surrounded by houses and private gardens. The owner of the adjoining garden, a distance of about thirty yards from hives, complained of the bees being a great nuisance last year, when there were only about ten hives, on the grounds that the bees fertilised his flowers, and also "set" a large number of specimen blooms he was reserving for show. I should be glad to know if he can legally take steps to prevent me keeping a bee-farm under these conditions? My garden is about an acre in extent.—W. G., *Southampton.*

REPLY.—We rather hesitate in advising that our correspondent should start a bee-farm under the conditions named without some knowledge of his aptitude for managing bees quietly, and without upset or disorder in the apiary. At the same time, we ourselves kept more hives than the number stated in a hedge-enclosed garden of less than half an acre—within twenty-five yards of a well-frequented road, and the dwelling of a neighbour—for over twenty years, without causing the smallest annoyance or damage. This, of course, refers only to the bee-keeper and his ability to work without rendering his bees irascible and vicious. As regards the legal aspect of the case, no one can compel removal of bees by law, unless they are proved to be a nuisance and a danger to those complaining. For the strict reading of the law it might be well to consult a solicitor, and for the rest, much, as we say, depends upon the bee-keeper.

Echoes from the Hives.

Totterdown, Bristol, February 9. — This springlike winter is making sad havoc with the stores of all stocks, and rapid breeding is in progress wherever there happens to be a healthy and active *young* queen. The other day I had to remove four stocks into other and better domiciles. Being a fine, mild day, I was successful in doing the whole of them (after everything was in readiness), ten frames in each, just under the ten minutes; but what caused me anxiety was the great depletion of stores consequent upon the large amount of breeding going on. In the four stocks referred to, there was an aggregate of fourteen combs with large patches of brood in them. This will mean a good deal of feeding and attention during the next few weeks; but, on the other hand, it also means good early stocks should the cold weather still hold off. "Wells'" hives and "Weed" foundation are well on their merits in this neighbourhood, and I trust these, together with the cleated separators, will have a fair innings during the season.—AMATEUR.

SEASONABLE QUESTIONS.

ANSWERED BY G. M. DOOLITTLE.

PRESERVING SURPLUS QUEENS.

Question.—Will you please tell us in next *Gleanings* how to keep surplus queens over winter? If it can be done, it would be very profitable to have a few extra queens to take the place of any that might be found missing in the spring. I generally supply many of my colonies with young queens in the fall, killing the old ones; but if I could only keep the young ones over winter, I should prefer it to doing as I have done in the past. I am thinking of caging several in a queenless colony. Will that plan work well?

Answer.—It is very doubtful about your succeeding in keeping a surplus of queens over winter by the plan you suggest, especially if you live north of latitude 38°, unless on the Pacific coast. In my younger bee-keeping years I tried almost every way I could think out or hear of to preserve surplus queens till spring; but to make the thing a practical success, I was obliged to have a colony of bees strong enough to occupy at least three spaces between combs, at this time of year. With what is termed a "four-frame nucleus," and by setting the same (with about 10 lb. of honey in the four frames) in the cellar as

early as November 1, I could generally succeed pretty well till they were put out in the spring, and sometimes they would pull c'ear through to the honey harvest and build up to full colonies ; but more often they would rapidly waste away during the last half of April and in early May, and then die entirely, or be robbed out by stronger colonies. Where I found queens failing thus early, I could kill them, and unite these little colonies and their young queens with the colonies from which I killed the old queens. But I could see little in favour of this, beyond what would have occurred had I killed the poor queens in the fall and done the uniting at that time. Later on, I was anxious for a surplus of queens in the spring, that I might fill early orders therewith instead of taking queens out of my strong colonies, to the great disadvantage of the same, that customers might promptly get their queens. And, being extremely anxious along this line, I tried many plans, the one our questioner proposes being among the number.

With nearly all the plans tried I could get along very well till about February, when colonies having several queens caged in their hives would begin to get uneasy and die from diarrhœa, or they would consume all their honey in and about the cluster, and move off and away from the caged queens "to pastures new," leaving the queens to die in their cages. Then I tried small nucleus-boxes, such as most queen-breeders used in raising queens in the early seventies, the same holding three or four little frames, 6 in. to 7 in. square. I would see that these little frames had 3 lb. or 4 lb. of honey, and only about bees enough to consume that amount before spring fairly opened, when I expected to feed them. Four to six of these boxes were placed over a good strong colony, on top of the frames, so the bees of the strong colony would, or could, if they were so disposed, cluster all about the bottoms and partly up the sides of the boxes, providing a way for the bees in the boxes to get out without mixing with each other or with the colony below, should those dying of old age wish to do so.

The little boxes were then covered with woollen blankets, and a hood or cap put over all, when it did really seem that they might go through the winter all right in a cellar whose temperature never went lower than 45°. But with a trial of some thirty or more in this way, I got only two through to where they could fly in the spring, while the colonies over which they were placed were lost, or became so weak that they were of little value during the next season. From these and many other experiments, which it would be superfluous to describe, I was driven to the conclusion that nothing could be gained in trying to winter surplus queens ; and if early queens must be had to a greater number than could be spared to advantage from full colonies wintered over, the cheapest and easiest way was to purchase them from the South.

If any reader of *Gleanings* has found out a practical way of wintering queens to a greater extent than one to each fairly good colony, I wish he would tell us how it is done. If queens can be so wintered that each apiarist could have an extra queen to every ten colonies during the months of April and May, it would be a great help to every bee-keeper in the land, providing that the wintering of such queens did not cost more than the results which could be obtained from them during the year. Hence the importance of any reliable information on this point. Don't be afraid to add any "mite" you may chance to have along any line of our pursuit, thinking it will be of so little value that it is not worth giving, for it is the little "kinks" that give value to apiculture when they are massed into one whole.—*Gleanings* (American).

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

PENALLY.—*Covering for Honey Jars.*—The sample of paper sent is altogether too thin and fragile for covering honey, unless used double thickness ; nor is it perfectly air tight, which all material for tying-down honey should be. What is ordinarily known as vegetable parchment is far more suitable for the purpose.

ALPHA (Hull).—*Honey as Food and Medicine.*—Mr. Newman's pamphlet on this subject may be had in America, but we know of no one in this country who stocks it.

JAS. TURTON (Freshfield).—Please bear in mind that communications intended for the British Bee-Keepers' Association should be addressed, not to this office, but the secretary, Mr. E. H. Young, 12, Hanover-square, London, W.

ALLEN SHARP (Brampton).—We regret to say your "Apicultural Notes," intended for this issue, only reached us at 6 p.m. on the 22nd inst., after the B.J. had been made up for press, and are consequently held over till next week. Our regret is increased by the fact of your MS. dealing with Mr. W. Woodley's contribution in B.J. of the 17th inst., and intended as a friendly reply thereto.

Several Letters and Queries are also deferred till next issue.

Editorial, Notices, &c.

LIVE BEES BY POST.

It is at length our privilege to make the fact known that bees may now be sent to any part of the United Kingdom by letter post, at the ordinary rate of 1d. per 4 oz. in weight. The concession dates from Tuesday last, the 1st instant, and, provided always that the official regulations are complied with, bee-keepers will henceforward be relieved of a probibition which told somewhat against the industry, especially with regard to the trade in queen bees.

It goes without saying that the usual amount of badinage on the subject will appear in the daily Press, but when papers want taking "copy"—and have active young men always on the rampage looking out for such—bee-keepers must be content to be dealt with as every one is nowadays. We already read in the *Daily Graphic* about "the position of a nervous person opening his letters in bed and inadvertently letting loose a swarm of bees," as something "more readily pictured than described," but the imaginings and picturings which fill the minds of press-men don't trouble bee-men, and the "fun" of the thing is *only fun* after all.

Seriously then, and for the information of readers, we print below an extract from the official *Post Office Circular*, dated February 22, 1898, which (under the heading, "Transmission of Liquids, &c., by Post") says :—

"From the same date (March 1, 1898) *live bees* will be allowed to pass by letter or parcel post within the United Kingdom, on condition that they are sent in suitable cases, and so packed as to avoid all risk of injury to officers of the Post Office or to other packets."

Another clause reads :—

"All the articles mentioned above will also, from March 1, 1898, be transmissable by sample post under special conditions between the United Kingdom and other countries where they are admitted, provided that the packets also conform to the general regulations of the sample post, as set forth in the "Post Office Guide." They must be so made up that they can be easily opened for purposes of inspection, with the exception of those containing *live bees*, which must be enclosed in boxes so constructed as to allow the contents to be ascertained without opening. In other respects the conditions as to packing, &c., will be those applicable to the articles concerned when intended for inland transmission."

"The countries mentioned below are those which at present admit sample packets of the nature described, with the reservations specified in the foot-notes*, and additions to the list will be notified from time to time as circumstances permit."

"Argentine Republic, Austro-Hungary, British colonies of Australasia, Bosnia-Herzegovina, Belgium, Brazil, Bulgaria, Canada, Chili, Columbian Republic, Congo Free State, Costa Rica, Cyprus, Denmark, Danish colonies, Dominican Republic, Dutch colonies, Egypt, France, French colonies, Germany, German Protectorates, Greece, Hayti, Hawaii, Holland, Honduras Republic, India, Italy, Liberia, Luxembourg, Mexico, Nicaragua, Norway, Paraguay, Portugal, Portuguese colonies, Roumania, Salvador, Sarawak, Siam, Spain, Spanish colonies, Sweden, Switzerland, Tunis, Turkey, United States of America."

USEFUL HINTS.

WEATHER.—March is with us, and still no winter—as the term is generally understood—has yet been felt. No skating, no snow-covered ground : indeed, nothing more nearly approaching normal weather conditions than an occasional day's frost, hardly severe enough to check the growth of vegetation outside. Never a week passes during which bees are not flying, and although cold winds have during the last few days stopped the free pollen-gathering so frequently seen ever since '98 came in, it is quite certain that breeding is well under weigh in all strong colonies, notwithstanding the fact that only eight weeks of the year has gone by.

SEASONABLE WORK.—To our personal knowledge very many stocks now have as many as nine seams of bees in hives containing ten standard frames ; only the outside spaces being vacant. When, therefore, this condition of brood-nests is not at all uncommon in the first week of March, it requires but little calculation to arrive at the probable condition of such colonies by the date when honey will be obtainable outside. But the very fact of such remarkable progress being evident within the hive should impress upon bee-keepers another fact, viz., that prosperity in that direction means thousands of additional mouths to feed ; and in con-

* Live bees are admitted only to the French colonies of the Congo, Diego-Suarez, Guadeloupe, French settlements in India, Indo-China, and Mayotte.

sequence, the smallest risk of possible scarcity of stores should be removed without any unnecessary delay.

It would be difficult to name a more annoying discovery to a bee-keeper than finding, on some fine morning in March or April, a strong colony of bees—strong and prospering in everything save stores—dead from famine. Yet this is not so uncommon an occurrence as many suppose when bees are in thoughtless or careless hands, and it should render it unnecessary for us to do more than mention it in order to impress on readers a caution as regards the risk mentioned above. Therefore, where any uncertainty exists, move the quilts far enough back to expose the outside frame on one side of the hive. Raise the comb as high as enables you to examine its food contents. Do the same with the outer comb on the opposite side, and if between the two there are less than three or four pounds of stores, lift out both frames, carry them indoors, and—first laying the frame of comb in a dish—pour into the cells a pint at least of good warm syrup, made fairly thick. Care is needed in filling the cells with the syrup, but it can be done by holding the vessel high up and letting the liquor fall in a thin stream. Replace the combs when filled, preferably at nightfall, or when bees have done flying for the day. A week or so later give syrup-food in the ordinary bottle-feeder.

Queenless Stocks.—The month of March being the natural season of the year when bees in all healthy colonies are impelled to join in the now rapidly increasing work of brood-rearing, stocks which from any cause have been rendered queenless will at this season become restless and unsettled. They apparently feel that something is wrong, as a child does when "mother is out." In fact, the bees of some queenless hives—being themselves motherless—occasionally get so disheartened and so dissatisfied with the "home" that they desert it in a body. An exodus of this kind is usually termed a hunger swarm, though it not seldom happens that plenty of food is left behind in the deserted hive. At times, too, even when no departure is resolved upon, queenless bees at this season are often noticed to be acting differently to those of prospering colonies. They become uneasy, running or flying about the hive entrance after normal stocks have ceased work for the day. Sometimes during working hours an odd bee will be seen hurrying in with just a mite of pollen on its legs, as if desperately trying to show how conscious it is of the work that *should* be making progress in March. Some lots, again, will show themselves to be queenless by the listless way in which the bees deport themselves compared with those of neighbouring colonies; and this condition is occasionally accompanied by dysenteric symptoms—shown in the specking of flight-boards—owing to the abnormal conditions which always surround queenless bees.

In all these cases, the only useful thing to do just now is trying to keep the bees in good heart by giving a little warm syrup occasionally until the time comes—three or four weeks hence—when they may be united to such other stocks as need bees to assist in keeping warm the daily increasing breadth of brood now being reared.

Free Discussion.—We should be sorry to have it supposed that the few remarks we felt it incumbent on us to make in a brief footnote on page 62, were in the slightest degree intended to check free discussion in our pages of all questions containing matter of use or interest to readers. Discussion, if carried on with due regard to courtesy, and kept free from acrimonious contention, is "as the breath of life" to a journal like ours, and so long, therefore, as these conditions are observed, we shall always welcome it in our pages. At the same time, those who read what appears in the column devoted to "Correspondence" should understand that the opinions expressed therein—whether in discussion or on general subjects—are those of correspondents themselves, and that we, as editors, are in no way responsible for them. This is clearly stated in the printed notice which heads this department of the B.J.; but it unfortunately happens in very many cases this proviso is overlooked by those who take their guidance in bee matters from the Journal. They write after this fashion: "I see it stated in the B.B.J. that bees do so and so; this is contrary to what I read in your 'Guide-Book' and elsewhere in your

pages." It will thus be readily understood how easily confusion may arise in the minds of those who do not trouble to look very closely into facts, and also afford good reasons for our anxiety not to give more prominence than we can help to unorthodox opinions expressed—with no ill-intent whatever—by enthusiastic correspondents whose experience of the "finer points" of the craft is too brief to render their views of much value. Moreover, none is readier to admit this fact than themselves a year or two later.

Another point is our limited space. This compels us to enforce certain restrictions with regard to such matters as are more suitable for the columns of the daily Press; especially is this the case where the interest is purely local and personal. Having said this much, we close by again repeating the assurance that for the rest, free, full, and candid discussion on practical bee subjects is welcome, and the more we have of it in our pages the better for all.

BRITISH BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING AND CONVERSAZIONE.

The annual general meeting of the B.B.K.A. will take place on Thursday, the 17th inst., at the rooms of the R.S.P.C.A., 105, Jermyn-street, S.W. On the conclusion of the general business the first quarterly conversazione of members for the year 1898 will be held, and as the Council of the B.B.K.A. cordially invite the attendance thereat of all members of affiliated associations who can make it convenient to visit London at the time, it is hoped that the gathering of bee-keepers and all who are interested in the pursuit will be a large and successful one. Appliance manufacturers and others are also invited to send up new and interesting appliances or objects for exhibition and discussion. Such may be sent either to the BEE JOURNAL Office, or direct to 105, Jermyn-street, London, S.W., addressed, Edwin H. Young, Secretary, B.B.K.A.

NOTTINGHAMSHIRE B.K.A.

The annual meeting of the members of this association was held on February 26, at the People's Hall, Heathcote-street, Nottingham. In the absence of the president (Viscount St. Vincent), who telegraphed from London expressing his regret at being unable to attend, Mr. P. Scattergood, jun., was voted to the chair.

The balance-sheet having been presented, the Chairman, in moving its adoption, said the accounts reflected great credit upon their hon. secretary, who was the right man in the right place. They had more than paid their way during the year. They began the year with an adverse balance due to the treasurer, and they finished with a balance on the right side.

The motion having been agreed to, the Hon. Secretary (Mr. George Hayes) read his report for the year, in which, after reviewing the past honey season in Notts, reference was made to the success of the association in winning the premier prize in the County Honey-Trophy Competition at the "Royal" Show in June last. This had given an impetus to the sale of Notts honey, a large quantity of which had been sold for members. Among other satisfactory items in the report, it stated that the Notts County Council had renewed their grant for education in bee-keeping, and lectures had been arranged for at various centres in the county, and it was hoped the Council would see their way clear to increase this grant, for in no other department were they getting so much work done for so little money. Thanks were due to all who so materially assisted during the year.

After some remarks by the chairman, the report was, on the motion of Mr. Pugh, seconded by Sergeant Mackinnon, adopted.

The following gentlemen were appointed to serve on the executive committee for the year 1898:—Messrs. W. Brooks, J. T. Faulconbridge, C. Forbes, S. W. Marriott, W. Poxon, A. G. Pugh, G. E. Puttergill, R. J. Turner, Wilson, T. N. Harrison, J. Hardy, and C. W. H. Griffith.

A vote of thanks was accorded to Viscount St. Vincent for his services as president, and it was resolved to ask his lordship to continue in office for another year. Other officers were re-appointed.

After an adjournment for tea, the meeting resolved itself into a conversazione. Prizes were awarded for specimens of fruit preserved in honey, honey-wine, honey-cake, honey-vinegar, and pure honey. The successful competitors included Messrs. J. Smith, P. Scattergood, G. Hayes, T. Maskery, and G. N. Bolton, Mrs. Scattergood, Mrs. Warren, and Mrs Raven.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

APICULTURAL NOTES.

NEW *v.* OLD FOUNDATION, AND DRAWN-OUT COMBS FOR SECTIONS.

[3173.] I beg to thank Mr. Woodley for his reference on page 62 to my "Notes" respecting drawn-out combs, &c., for sections—and

our editors for the foot-note to Mr. Woodley's letter. But so far as I am concerned, there is really no need for the editorial hint to avoid getting even "half angry." My contributions to the JOURNAL are written with the best of feelings to all concerned—and I am actuated by none other than pure and honest motives—I have no "axe to grind," and no purpose to serve beyond adding to the interest—and, possibly, to the value—of the JOURNAL. Therefore, when I find myself unable to refrain from expressing angry feeling because someone does not happen to agree with me, I shall consider it high time to give up writing. Nor do I wish to restrain the full liberty of readers to take exception to anything I write; they may criticise my "Notes," to their heart's content, while I heartily assure one and all that no amount of adverse criticism shall draw from me even a "half-angry" expression, or anything in the way of unfriendly or sarcastic retort. Acrimonious contention is not calculated either to raise the moral tone of the BEE JOURNAL or edify its readers; but *friendly* discussion on practical subjects is both interesting and profitable.

I have often heard expressions of regret that there is too little of practical discussion on bee subjects in the B.B.J., and for several weeks past have myself been giving prominence to debateable subjects, with the hope that discussion would follow. I was, therefore, glad to see Mr. Woodley's comments, even though he took exception to what I had said with reference to new *versus* old foundation and drawn-out combs in sections. But I venture to say it would have answered the purpose equally well had a more friendly spirit pervaded Mr. Woodley's remarks. Why, for instance, does he take trouble to tell us that, after carefully reading my "Notes," he was surprised to find that the method he had been practising and recommending to others was a *wrong* method, and, almost in the same breath, declare quite confidently that he had not discovered anything but good in his own system, and wind up by disparaging mine? Remarks of that kind appear to me intended as so much sarcasm, calculated to serve no purpose beyond helping to check the free expression of divergent opinion as to what plans of working yield the best results. If Mr. Woodley or any one else who uses drawn-out combs and old foundation find that plan more profitable than using new foundation, I say by all means let them stick to the method which pays them best. On the other hand, I have discovered that far and away better results can be obtained—by me, at all events—by using new foundation "fresh from the mill," if I could get it, with its beautiful aroma and pliability, than by anything else; and I have made that fact known to the bee world.

But I have no desire to compel, or even try to persuade, any one to follow my method, unless they think well to do so. I only ask readers of the JOURNAL to give the matter a fair trial, and if this is done I have not the slightest doubt in my own mind as to the conclusion they will arrive at. Let any one take two stocks of bees, strong and equal in every other respect. Give to one a surplus chamber, fitted with old foundation and drawn-out combs, and let the other be supplied with new foundation. Then note results; and in doing this take into account the *quality* of the sections as well as the time occupied in filling them. That is all I ask.

Mr. Woodley agrees with me as to clean sections; and in considering this point we must remember that sections which contain drawn-out combs are, for the most part, those which the bees were unable to fill the previous year; consequently they are the last taken off at the close of the season. I do not know whether it is a general thing, but in my district and in other localities with which I have to deal experience proves that sections left on the hives for a comparatively long time, at end of season are *always* so smeared or plastered over with propolis that it is impossible to make the wood look clean and white; so that if saved for filling the next year, you have dingy looking sections, neither creditable to the producer nor attractive in the shop window of the honey retailer. Assuming then, for the sake of argument, that sections of drawn-out comb will be filled more quickly than those fitted with foundation, how do they compare when filled and sealed? I have never yet seen or heard of *first-class* sections of comb-honey being produced by the use of combs built in a previous year. In fact, the appearance of such sections has so often disgusted me that I have cut the combs up and drained the honey from them. Thus the drawn-out combs — saved with so much care—have proved no gain but a positive loss. Then as regards foundation; if old is as good as new, why do so many bee-keepers write asking manufacturers or editors what they are to do with the old foundation they have on hand in order to make it acceptable to the bees? My own bees last year drew out new foundation and filled it with honey, while old foundation was entirely neglected, not because the latter was inferior in quality, because it was the best procurable, and had, moreover, been taken to by the bees quite readily *when new;* while the portion left over had also been carefully stowed away in the very package in which it was received from the manufacturer.

Mr. Woodley tells us how carefully he has extracted partly-filled sections at the end of the season, and the means he has adopted to prevent the breakage of combs, while longing for a machine that would do this work effectually; also how he has carefully preserved all odd bits of clean comb, &c. All this I, too, have done, and the conclusion has forced itself on my mind that it is so much time and labour wasted; and my candid, firm conviction is, that all who give the matter a *fair trial* will

(*Correspondence continued on page* 86.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

The illustration here shown represents one of the apiaries of Mr. T. W. Thubron, who is seen in the picture in the act of raising a comb from a hive. Writing us regarding himself, Mr. Thubron says :—"In response to your invitation, I send on a photo of my No. 2 apiary. I commenced bee-keeping eight years ago with one stock purchased from a friend in Yorkshire. My knowledge of bees might then be considered as nil. By way of seeking information I began to take in your instructive paper the *Bee-Keepers' Record*, from which I got valuable hints as to proceedure, at the same time making practical observations of the habits of the bees and, as usual with beginners, trying several experiments, and adopting such methods as I considered desirable. The question is often raised, Does bee-keeping pay? Judging by my experience, it does, if the bees are carefully looked after, and not allowed to be cramped for space when the honey-flow comes on, and equally managed in other details. I make all my own hives, as shown in photo, fitting each with ten standard frames. At first I wintered the bees on the whole of the frames, but of late years they have been crowded on six to seven frames, after feeding them up in autumn, and this method has proved generally successful. I also renew every year a portion of the combs in each hive by substituting frames of foundation for those needing removal in spring—and when carefully done, this, I find, increases the amount of brood raised; besides, the new combs are not clogged with honey when breeding is further advanced. My bees are taken to the heather every year, a distance of thirty-one miles. I charter a van from the railway company, paying at the rate of 6d. a mile each way. In 1896 the heather season—like the present one—was a complete failure for the general run of bee-keepers. I, however, took sufficient honey to clear all expenses and leave a nice little profit besides. As yet I have not gone thoroughly into queen-rearing, but am contemplating doing so. Nor have I done very much exhibiting, but I secured two "firsts" for sections at the Durham County Show last year, besides several firsts at local shows. My opinion of bee-keeping on the whole is that it is a pleasing, healthy, and instructive occupation."

MR. T. W. THUBRON'S APIARY SEDGEFIELD, CO. DURHAM.

The county of Durham is one where so much of success or failure depends on the heather season, that it says much for Mr. Thubron's management when his report as to whether or not bees pay is in the affirmative, in face of two successive failures at the moors, and we hope others will be encouraged by his experience as a bee-keeper.

(*Correspondence continued from page* 84)

ultimately agree with me. Because you or I, friend Woodley, have adopted a certain method, and recommended the same to others, it does not follow that however successful, our methods are not capable of being improved upon. Much as we know, and great as has been the progress in apiculture during the last twenty years, there is still room for improvement. We have not reached perfection yet.—ALLEN SHARP, *Brampton, Huntingdon.*

OUR WILD BEES.

(*Continued from page* 77.)

[3174.] This paper I purpose to devote to observations on external anatomy and classification as much as is necessary for the proper understanding of our subject. I shall endeavour to say what is necessary in the simplest terms and in the briefest manner possible ; thus the student should try to master every detail, and this will be greatly facilitated if he actually dissects one of the large female humble-bees (which should soon be making their appearance), or, in lieu of this, a common worker honey-bee, and separates the parts for himself.

The bees, together with the saw-flies, ichneumon-flies, ants, wasps, &c., from the order *Hymenoptera*, which may be roughly characterised as having four clear wings without a great number of *nervures* or veins. In company with the ants and wasps, they come under the section *Aculeata*, in which the females have the ovipositor of the ichneumon-fly modified into a *sting* or piercing organ.

The bees, as a rule, are densely hairy ; but in some of the inguiline genera they are almost *glabrous* or devoid of hairs. Under the microscope, the hairs on the thorax are *plumose* or branched. The posterior metatarsi are large and dilated. So far as is known, the bees live entirely on the nectar and pollen derived from plants, and they store up the same for their young.

On examining a bee—for instance, one of the large humble-bees—it is seen to consist of *head*, *thorax*, and *abdomen*.

The following are the chief external organs on the head :—Two large *compound eyes* situated on either side ; three small *ocelli*, or simple eyes, arranged in triangle on the *vertex* or crown ; two filamentary *antennæ* or feelers, of which the *basal* or first joint is called the *scape*, the remaining joints are collectively named the *flagellum* ; a little below the insertion of the antennæ is a somewhat triangular plate, known as the *clypeus*, below this is a small flexible plate called the *labrum*, which protects the *mouth parts*, when they are folded ; the two *mandibles* articulate on either side.

Working backwards from the head, the divisions of the thorax on the *dorsal*, or upper surface, are the *pronotum* or collar, and the *mesonotum*, behind which come the *scutellum*, the *post scutellum*, and the *propodeum*. The propodeum answers to the first segment of the abdomen, in most insects, but in this group of the Hymenoptera it has been transferred to and amalgamated with the thorax. The six legs and four wings are attached to the thorax.

The abdomen has, in the male bee, seven *dorsal* or upper, and also seven *ventral* or under *segments* or plates exposed to view, in many species there are traces of an eighth segment visible ; the genital apparatus (except in the honey bee) consists of a complex *armature*, the shape of which affords one of the most reliable characters in distinguishing closely allied species. Male specimens of difficult genera, such as *Sphecodes* and *Bombus* should have their armatures extracted and exposed to view, otherwise it is sometimes impossible to name them correctly. This can easily be done with a fine needle.

The female bee has only six dorsal and six ventral segments. The *sting* takes the place of the male armature. The sixth or terminal segments are sometimes called the *apical valves;* their shape is often of importance in determining the species.

Returning to the head we will now examine the mouth organs, the varying structure of which forms the basis of the broader classification of the wild bees. The cut (fig. 1)

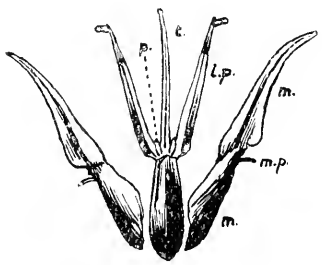


Fig. 1.—Mouth-part of Bombus terrestris.

represents the mouth organs of the humble-bee. When at rest the apparatus is neatly folded into a large groove under the head. It may easily be extracted for examination with a needle. In the centre is the *tongue* (*t*). On either side of the tongue are the two small *paraglossæ* (*p*) ; these are long and threadlike in some genera ; in the honey-bee they are absent. Outside the paraglossæ spring the *labial palpi*, which are four-jointed, the two apical joints being minute and divergent. On either side of this central stem bearing the tongue and labial palpi are the two *maxillæ* (*m*), from about the centre of which spring the little *maxillary palpi* (*mp*), which in the humble-bee have only two joints, in the honey-bee but one.

Below are sketched the typical mouth parts of the three families of bees, the *Colletidæ*, the *Andrenidæ*, and the *Apidæ*. Notice that in the Colletidæ the tongue is short and bifid ; in the Andrenidæ it is also short, but acute at

the apex, while in both these families the labial palpi (*lp*) are cylindrical; in the Apidæ the tongue is long and threadlike, and in this

Fig. 2.—Tongues of Colletid (*Colletes*), Andrenid (*Andrena*), Apid (*Megachile*).

family the two first joints of the labial palpi are long and sheathlike, the two apical joints being minute. All the higher bees, including the humble-bees and the honey-bees, belong to this last family.

On the thorax the wings and legs require a little further attention. The sketch (fig. 3) shows the anterior wing of the humble-bee. It consists of branching *nervures* which enclose the *cells*. The *base* or root of the wing is protected by a small scale (*t*) called the *tegula*. On the anterior margin of the wing towards the *apex* or tip is the marginal cell (*m*). Grouped around this are the first (1), second (2), and third (3) *sub*-marginal, or as they are sometimes called, *cubital* cells. The above are the only cells the names of which we need to know at present. In every bee's wing the marginal cell may be found, but in some genera only two sub-marginal cells are present.

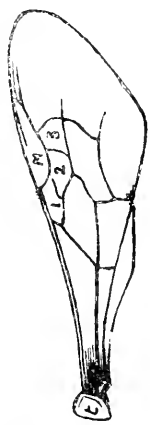


Fig 3.—Anterior wing of Bombus.

The six legs are arranged in three pairs, the *anterior pair*, the *intermediate pair*, and the *posterior pair*. Fig. 4 shows a posterior leg of a female humble-bee. The joints are (*A*) the *coxa*, (*B*) the *trochanter*, (*C*) the *femur* or thigh, (*D*) the *tibia* or shank, (*E*) the *metartarsus* or ankle, (*F*) the *tarsi* or toes. In the humble-bee, and in the greater number of bees, pollen is carried between the tufts of hair (*a*) on the posterior tibiæ. In some genera, however, the pollen is carried instead on the *venter* or underside of the abdomen, which is clothed with long hairs for the purpose. In the inquiline genera (page 77) the female is quite destitute of pollen collecting organs.—F. W. L. Sladen, *Dover, Feb.* 24.

Fig. 4.—Leg of Bombus terrestris, ♀.

(*To be continued*).

ANOTHER BEE-KEEPERS' WANT.

A SOLAR WAX-EXTRACTOR FOR COTTAGERS.

[3175.] The article by Mr. Schröder in B.B.J. of February 24 (p. 73), coming as it does at a time when I am pondering "how to obtain a solar wax-extractor," is interesting. A reliable solar wax-extractor is a general want among cottager bee-keepers. The appliance for this purpose advertised by our dealers is too expensive for the cottager. At half the price I am a buyer, and it would pay me in one season. The present methods of rendering wax are expensive when the expenditure for fuel is totted up, to say nothing of the disturbance and excitement (to use Mr. Schröder's words) in the home caused by soiled utensils requiring more than the usual amount of elbow-grease to clean them. The cottager cannot afford to send his wife and family to the theatre to witness a performance of "My Girl" while he does his wax-extracting and the cleaning-up which follows, as I understand, your esteemed correspondent "Lordswood" does. So we have to grin and bear what those of our brethren who are blessed with more means are able to avoid by doleing out a few shillings for an outing for all the other members of their household.—Wm. Loveday, *Hatfield Heath, Essex.*

BEE-KEEPERS AND CATALOGUES.

MANUFACTURERS' GRIEVANCES.

[3176.] Yes, everything is becoming marvellous; even the way in which manufacturers use bee-keepers, and forsooth the way manufacturers are themselves being used. I know one of these latter, not ten miles south of Peterborough, who could unfold a list of bee-keepers' accounts still due to him from 1895, to say nothing of those of 1897, and on top of this sad grievance many others to boot. But the manufacturer, by his own choice, still holds on to his calling, and so long as he continues to do this, so long must he expect things not to go smoothly. But the less he grumbles about this condition of things the better he will fare, in my opinion. In the office of the manufacturer I refer to I one day saw fifteen surcharged postal communications, but I observed the way in which such were dealt with, and I admired it. The envelope showing charge ("1d. to pay") was enclosed with the catalogue requested, and to the credit, be it said, of bee-keepers, I learned afterwards that twelve of the fifteen took the hint, apologised, and enclosed the 1d. stamp. Mr. Rose may say, "What of the remaining three?" Well, these will, I hope and think, bear in mind they owe the manufacturer a 1d. on their last transaction, and in due time he will reap from these an order.

Hoping I have pointed out how Mr. Rose may solve his difficulty,—Robin Hood, *February* 26.

BEE JOTTINGS.

[3177.] If the Government are enabled to carry out their intention of making a large grant in aid of the sugar industry of our West Indian colony, there will be a rise in the price of sugar ; but I think all bee-keepers worthy of the name will gladly sanction a grant in aid to a needy industry, even at some expense (which, I think, will be trifling) to ourselves. This will act as a brake on those bee-keepers who are in the habit of extracting every possible ounce of honey from the body of their hives.

I gather from a daily paper that our American cousins are talking a good deal about the Paris International Exhibition in 1900, and are already saving up their dollars for an excursion to the exhibition. I suppose British bee-keepers will have an opportunity of saying whether or no we shall in any way be represented at the great International Exhibition in Paris, shall we not ?

I also take the following from a daily paper : —"For sunburn mix a spoonful of honey in a little luke-warm water, and apply this to the sunburnt skin."—WM. LOVEDAY, *Hatfield Heath, Harlow, Essex.*

"WHERE THE BEE SUCKS."

(*Continued from page* 75).

[3178.] If my readers desire to make acquaintance with the flora of other countries —it is a most bewitching pastime—they must be prepared to give some thought and time and hard work to the subject, for in this, as in bee-keeping and all other sciences, knowledge comes only with much perseverance and industry. The gold is not lying about in nuggets, but in little flakes in hard quartz deep in the mountain side, and you must blast the rock and crush the quartz diligently, to get ever so little of it—the motto under the beehive is true enough, "Nothing without labour."

To the young Agassiz I would say, begin in your father's garden, if he has one (it seems terrible to me that there many people nowadays who have no gardens and do not know the meaning of the word), and try to understand that each plant belongs to some great family, its members being scattered all over the world ; thus the "London pride" belongs to the most interesting family of Saxifrages. It is found wild on mountains in Ireland, and has cousins on our own Snowdon and Scafell, on the Alps of Europe and in America. I have some hundreds of these, many off the Pyrenees, the Himalayas, and the great mountain ranges of Siberia, the Caucasus, Asia Minor, Switzerland, &c. Most of my friends call all these small plants—saxifrages, sedums, sempervivums, drabas, androsaces, and such like—moss ! But, believe me, they differ as much from moss as an ox from an ass, or a bee from an elephant. In fact, my friends differ less from a donkey than these plants do from one another !

Again, every one knows the Canterbury bell (*Campanula medium*) from our wild hairbell (*Campanula rotundifolia*). Then why not go a step farther, and adopt those lovely little relatives, the tufted hairbell *Campanula caespitosa*), the vase hairbell (*C. turbinata*), or tall relatives, such as *C. grandis*, *C. persicifolia* (peach-leaved), *C. Van-Houttei*, &c. ?

If, like Mahomet, you cannot go to the mountain, you must bring the mountain to you ; and this is easily done by growing its flora and imagining the rest ; which, if you have been in Wales, in the North of England, or Scotland, you can very well do.

I have never been out of England and Wales, yet in the above sense I have travelled in many lands and seen a great deal. If ever I do travel, think how delightful it will be to have friends to meet in every country. And more delightful still if you have friends amongst the butterflies and bees, birds, and beetles.

Some plants are very particular about their eating and drinking. Some like a great deal of sand, some broken granite, or limestone, or slate, some old mortar and pounded bricks, others peat or leafmould, or dry friable soil, or rich loam, or clay. Those that love the rocks, the dry upland pastures, the breezy hillsides, are as a rule the sweetest scented—often flowers and leaves, such as thymes, sages, balm (*Melissa*), rosemary. They distil more honey than do their friends who spend their lives eating much rich loam and clay. Therefore our hive bees love them best, and the sub-Alpine countries (witness England and parts of Switzerland, Germany, &c.) produce the best quality honey in the world (I shall have Dr. Miller on my tracks !).

Bees are (unwittingly) the great fertilisers of the flora. The wind, gentle airs, birds, butterflies, moths, beetles, ants, and flies, &c., &c., do a great deal of this work ; but bees (of all species) are so much more industrious than butterflies and such like giddy creatures, never being late at business in a morning, and always willing to work overtime (for payment), that the majority perhaps (I am doubtful about it), of flowers have dressed themselves elegantly and made tempting sweetmeats to attract these their little lovers. Thus the bees are dependent on the flowers for their lives, and the flowers on the bees for *their* lives, and thus it is an axiom throughout nature, one thing dependent on another (or others) for its existence. Even man (a rather important personage in his own estimation—witness him being dragged about by coachmen and horses ; living in palaces &c.) is but a grub, obliged to gnaw wheat and chew watercress and lettuce leaves and cabbage ; or at the best (or worst) is an animal, holding his life on the same tenure as all other animals, for is he not compelled to eat something ? Either a "chop" off some other animal who, in its turn, has "cropped" the grass

and herbs for a living; grass and herbs that owe *their* existence to the wind, bees, &c.; and, primarily, to the soil and sun; either this fleshly food, or fruit and grain. How little our lives seem from this point of view! Ought we not all to be bee-keepers, and have a steadfast eye to the wind? To observe that the sun does its duty properly, having regard to his great responsibilites? Instead of this, I find men grossly ignorant of the sun's ways or nature's ways. They live mostly in great teeming hives, in dirty cells, and much "foulbrood" among them; rarely going beyond the edge of the flight-board; busily engaged in making stuff for rag and bone men; contented so long as the field-workers bring in a good supply of honey, beer, and tobacco!

On rare occasions (happily), from some mismanagement the food supply has been cut of. Then there is famine and death. Hundreds of thousands perish, and the hive is weak for a time—not many workers in the fields—the queen, humble and sad (witness the Irish and Indian famines).

(I shall have the Editor on my track, saying, "'Where the bee sucks,' please, not 'On the production and better distribution of food,' this journey, please!") Now I shall only name those plants that can easily be obtained from any of the hardy plant nurseries at a moderate price. When I get to the hundredth plant some bee-keeper will say, "Oh, yes, how can I afford to buy all those?" But let me tell them they can do it by practising some little self-denial as I have often done; say, give up tobacco for a while, or dine occasionally on three dates and a few mouthfuls of water, or will not the bees earn sufficient to pay for them? If one plant only is bought, a stock can soon be obtained by repeated division. There is nothing mean about plants. Illtreat them as you may they will always be found to be doing their best to flower and grow to make the world beautiful.—LORDSWOOD.

(*To be continued.*)

Queries and Replies.

[1978.] *Bees in Hive Roof.*—A friend of mine has a stock of bees in a frame-hive, and last year, when putting on a rack of sections, she omitted to place any quilt on the top, so that the bees appear to have built combs inside the roof, and have sealed up the ventilation holes. They have also sealed down the roof to the body of the hive. 1. Is it likely that the queen bee has got into the top of the hive? 2. How can the bees be induced to go back to the frames, and when would be the best time for doing it.—M. D. E., *Stanford-le-Hope, Essex, February* 24.

REPLY:—1. It is probable enough that the brood nest of the bees will be found in the hive roof since they have propolised the ventilation holes therein. 2. You cannot induce them to go back till the queen is in want of egg-room, when she will descend and take possession of the combs in the original brood-chamber. An experienced bee-keeper would prize off the roof and, after ascertaining the exact conditions of things, take his measures accordingly, but ladies without experience would no doubt find the task beyond their powers.

Echoes from the Hives.

The Conifers, Hambrook, February 26, 1898.—To-day it was fine, and bees were flying. During the morning I was walking through my apiary, and found one of the hives devoid of bee-life, and on examination that two mice (not shrews) had taken possession, and were preparing a nest for their young, having eaten all the stores, and a great deal of comb, and apparently starved the bees, who lay dead in thousands on the floor-board! The entrance of the hive was only a small one. It is the first experience of the kind I have had!—P. HAMLYN-HARRIS.

THE NEW STYLE OF SECTION.

EXPERT OPINION THEREON IN AMERICA.

The second article on the section question which—on page 71 last week—we promised to quote is by Mr. Jas. Heddon, of Dowagiac, Michigan, well known as the designer of the hive bearing his name. Mr. Heddon goes strongly against the plain section, and in doing so, says:—

"In the *Review* for October, and more particularly in *Gleanings* for November 15, we find cuts and descriptions of two claimed steps in advance, which I have been taught in my experience are radical steps *backward*. I refer to sections without spaces, and cleated separators, called 'fences.' Having been one of the original inventors of sections (whether prior or not, I don't know), I thoroughly tested, as I believe, the spaceless sections. One year I used 5,000 of them, opening the spaces with thick separators, and I have relics of them yet about my home apiary. They became things of the past, wholly because sections with bee-spaces, that is, with tops and bottoms narrower than the uprights, are much superior to them, at every step, from the surplus-case to the consumer.

"Bro. Root tells us that he believes these two features are improvements, although tried and laid aside by several foremost honey producers. He says that the times were not right for them, but he doesn't take the time to tell *why*. He cites us to electric railway inventions in an early day, and their later adoption, after said inventions had been perfected and made practical, and public conditions had changed, while

no change of conditions had taken place to make the worthless, spaceless section of twenty years ago a thing of beauty and joy for ever to-day. Mr. Root declares that he is sincere in his convictions, even if the change is specially adapted to large supply houses with special machinery. (We now refer to the cleated separators.) I call this cleated separator a miserable glue-trap that will vex the bee-keeper beyond all other implements of the apiary. I am not without some early-day experience with that also.

"It seems too simple to discourse upon the reasons *why;* it is inconceivable to me that there can live any practical honey producer who cannot see a dozen reasons at a glance.

"Spaceless sections are a nuisance in the 'case,' in the shipping-crate, and in every other place. And cleated separators are worse, if possible, as compared with the standard varieties of to-day; and I am willing—yes, anxious—to stake my reputation as a bee-keeper upon that fact. It seems to me that these costly errors grow out of the fact that there is nothing of any special worth to write about that has not been chewed over and over again; hence, the old errors must be taken up so that we can begin back about twenty-five years ago."

[Now, friend Heddon, have patience. You must remember that some of us are thick-headed. We not only have to be told things in plain English before we can comprehend them, but sometimes our heads are so thick that it is actually necessary to pound in the ideas. Now, if you will write another article, and go carefully over the ground, pointing out all of the objections that you found against the plain section and the slatted separator, just as though you were writing for real common folks, instead of the unusually bright ones, I shall be very glad to print it.—Ed. *Review.*]

TRADE CATALOGUES RECEIVED.

John H. Howard, Holme, Peterborough.—This, the first of our home manufacturers' catalogues for 1898, which reached us—if it is to be taken as a specimen of others to come—makes a remarkably good "send off." Indeed, it is not disparaging the many excellent and well got-up lists received in bygone years to say that Mr. Howard's catalogue, taken as a whole, is a marked step in advance of anything hitherto seen in the same line. It comprises sixty pages (full quarto size) printed on paper fit for the best art work, and copiously illustrated with good engravings, including fine half-tone reproductions from photos of hives, &c., taken from the originals (set up among garden flowers and foliage for the purpose). We can only describe the list referred to as an admirable one in every respect, and if a second edition is not called for ere long it will surprise us very much.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Amédée (Saltburn-by-Sea).—*Carbolic Acid for Subduing Bees*—Being an entire beginner in bee-keeping, we do not think you will succeed anything like so well in subduing the bees with carbolic acid as by using a bee-smoker. The acid does better in the hands of those possessing more experience. Besides, a good smoker may be had for about 1s. 6d., so it is not a costly matter. In any case, it will do little or no good to place a sponge soaked in carbolic solution at the hive entrance to keep the bees quiet while you operate above the tops of frames. The task of cutting a feed-hole in the quilt is so simple a one that a roll of old corduroy set smouldering would be fully efficacious for the purpose if the smoke from it is blown (with the mouth) over any bees that show themselves.

R. Grindrod (Hereford).—*Drones in February.*—We should strongly suspect a drone-breeding queen in the stock from which drones are flying so early as February 24. An examination of a brood-comb would soon decide the matter.

W. T. (Lampeter, S. Wales).—*Bee Literature for Beginners.*—1. The price of our monthly, the *Record*, is 2s. 6d. per annum, post free. You should, however, hardly need the *Record* if continuing the B.J. as now. 2. The "Guide-Book" is specially written for the instruction and guidance of those taking up bee-keeping, and is an entirely different work from the "Practical Note-Book," the latter being used for quite another purpose viz., keeping accounts of stocks, queens, and the inner details of bee management.

E. C. (Chester).—*Dr. Evans' Poem "The Bees."* While thanking you very much for copying a portion of Dr. Evans' poem, we may say the first two books, with all the copious notes thereto, appeared in our pages some years ago.

R. H. (Fryup).—*Bees and Rum.*—No, we cannot advise even "one tablespoonful of rum to a pint of syrup" as a "good thing"; in fact, we even think the bees of to-day get more honey than in the times when our forefathers so lovingly gave them "a drop of beer in their posset." And so let us maintain teetotalism in the bee-hive spite of the "good thing" our correspondent has been informed that a "drop of rum" is. 2. We should work the driven bees as a single-queened stock in preference to transferring them to a "Wells" hive.

T. Routh.—*Immature Bees Cast Out.*—1. No doubt it was the candy food given that caused the bees to fly freely on the occasion referred to. 2. The stock should be examined the first chance, as the bees cast out are undersized and immature drones.

Editorial, Notices, &c.

YORKSHIRE B.K.A.

ANNUAL MEETING.

The annual meeting of the Yorkshire Bee-keepers' Association was held at St. James's Hall, Leeds, on February 27, Mr. C. B. Elmhurst, Hon. Sec. of the Knaresborough Branch B.K.A., in the chair. After the minutes were read, and the accounts passed, the correspondence of the past year was discussed. The Chairman reported cases of honey having been stolen from the staging at the show of the Yorkshire Agricultural Society last year, at Harrogate.

It was supposed that these thefts were not committed by visitors to the show, but by night-prowling attendants on the show ground. The Hon. Sec. (Mr. R. A. H. Grimshaw) promised to see the steward, commissionaires, and police at the forthcoming show in Roundhay Park, Leeds, next July, with a view of preventing a recurrence.

As some annoyance has been felt as to the wording of last year's report of the show in the B.B.J., the Chairman kindly undertook the duty of writing the official report for 1898, and it is hoped the editors will be good enough to consider "none other genuine."

The question of lecturing in the bee tent was next discussed, the sense of the meeting being that a variety of lecturers was inadvisable, and a resolution was passed instructing the Hon. Sec to appoint one paid lecturer for 1898.—(*Communicated.*)

NORTHAMPTONSHIRE B.K.A.

ANNUAL MEETING.

The fifteenth annual meeting of the Northants Bee-keepers' Association was held on Saturday, February 5, in All Saints' Schools. Mr. J. Perry presided, and was supported by Messrs. Winterton, Atkins, Ball, Manning, Sturges, Partridge, Tinuns, and others. The chairman called on the secretary to read the report for the past year, which stated the season was a variable one, commencing earlier and continuing later than usual. A late crop of clover enabled the bee-keepers of the county to secure an average yield of good honey to be secured. The annual show was held in Delapre Park, the large tent being well filled with honey, wax, and honey confectionery. Mr. Munn is thanked for his honey-trophy, which added greatly to the attraction of the show. Mr. W. H. Harris, who was the judge appointed by the British Bee-keepers' Association, commended the show most highly. The silver medal of the B.B.K.A. was awarded to Mr. Salmon ; the bronze medal to Mr. Litchfield ; and the certificate to Mr. Manning. The committee expressed their grateful thanks to the donors of special and other prizes. Outdoor demonstrations in bee-keeping were given during the season at Dallington, Eydon, Flore, Helidon, Long Buckby, Irchester, Collingtree, Blakesley, Brackley, &c. The statement of accounts showed the year's expenditure to have slightly exceeded the receipts. On the motion of Mr. Partridge, seconded by Mr. Manning, the accounts were duly passed. Mr. R. Hefford, hon. sec., and Mr. G. E. Atkins, hon. treasurer, were re-elected, and the following gentlemen appointed on the executive committee for the season : Mr. A. L. G. Morley (chairman), Mr. J. Francis, Mr. Ball, and Mr. Manning (Northampton), Mr. J. R. Truss (Ufford Heath), Mr. Collins (Berry Wood), Mr. G. Page (Holcot), Mr. Arland (Flore), and Mr. Winterton (Wellingboro'). A vote of thanks to the chairman concluded the proceedings.—(*Communicated.*)

LEICESTERSHIRE B.K.A.

ANNUAL MEETING.

The annual meeting of the Leicestershire Bee-keepers' Association was held on Saturday, March 5, at the Victoria Coffee House, Leicester, under the presidency of the Mayor (Ald. Wakerley). There was a good attendance of members, among those present being Ald. Underwood, W. P. Meadows, Dr. Emmerson, H. M. Riley, J. G. Cotton, Mr. and Mrs. Pugh, and Mr. Geo. Hayes, Sec., Notts. The sixteenth annual report, presented by the Secretary (Mr. J. Waterfield), showed a satisfactory year's working. No great strides have been made, but there has been steady and solid progress in every direction. The recorded membership now stands at 173, against 158 in 1896. The season of 1897 was one of great prosperity from a bee-keeper's point of view, the yield of honey being a full average one, both in quantity and quality. Three exhibitions of honey were held during the year, during which period the experts have visited 165 members, who own about 700 hives of bees. The report was adopted. The Mayor, in the course of some appropriate remarks, noted with satisfaction the increase in the number of members of the association. Although not qualified to speak on bee culture as an experimental expert, he claimed to speak as one who sympathised with every pursuit which tended to roll back the dark wave of mechanical industrialism which in large cities threatened to submerge them. The officers and committee were then re-elected for the ensuing year, after which the prizes won at the 1897 shows were presented by his Worship ; as were also the prizes for honey shown at the meeting, and afterwards sent to the Children's Hospital, Leicester. Those present having partaken of tea, at which seventy-four members sat down, a capital lecture on the anatomy and physiology of the honey bee, illustrated with excellent limelight views, was given by Dr. Percy Sharp, Brant-Broughton, Newark-on-Trent.—(*Communicated.*)

THE SOLAR WAX-EXTRACTOR.

BY ALEX. SCHRÖDER.

(*Concluded from p.* 74).

Resuming our description of the Solar Extractor in its various parts, let us begin with the body of the appliance. This is a wooden box (fig. 1), lower in front than in the rear, with a double bottom, shortened in

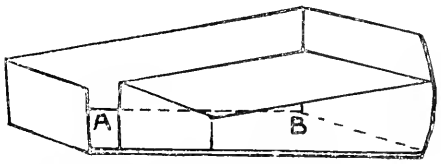


Fig. 1.—*a.* Space for the wax receiver. *b.* Double bottom.

the front to leave room for the wax receiver—*i.e.*, a tin basin (fig. 2), which, as shown in sketch, is wider at its top edge.

The lid of box (fig. 3) is double-glazed, the panes of glass being fixed about $\frac{1}{2}$ in. from

Fig. 2.—Wax Receiver.

each other, forming a dead-air compartment. By means of hinges and a "hasp" (fig. 4), the glazed lid is capable of being raised or lowered from behind, according to the position of the sun, so that its rays may be made to

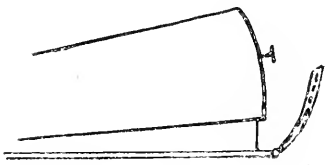


Fig. 3.

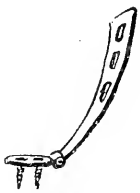


Fig. 4.

strike the glass panes as nearly perpendicularly as possible. To prevent the escape of heat, the body-box is lined on the *outside* with black flannel, the lid being lined on the *inside* with the same material.

Fig. 5.—Melting Zinc Plate.

The comb-dish, or melting-plate (fig. 5), is made of strong zinc, turned up on three sides, as shown in sketch.

To concentrate the rays of the sun more intensively on the wax combs, a reflector, A (fig. 6) is fixed with hinges on the lid and is kept in the wanted position by two arms, B. The reflector is easily placed in the right position for bearing upon the proper point, as one can see the reflected rays.

The surface of reflector is of nickel-plated metal, fitted in a wooden frame, and should be of the same size as the glazed lid of box, which it will protect as a cover, when not in use.

Having now got the extractor prepared and ready for use, we open the lid and put a quantity of combs, cut into strips 3 in. or 4 in. broad, on the zinc plate, fig. 5, placing as much of the combs thereon as will cover about two-thirds of the surface of plate. The pieces of comb should be put standing up in vertical

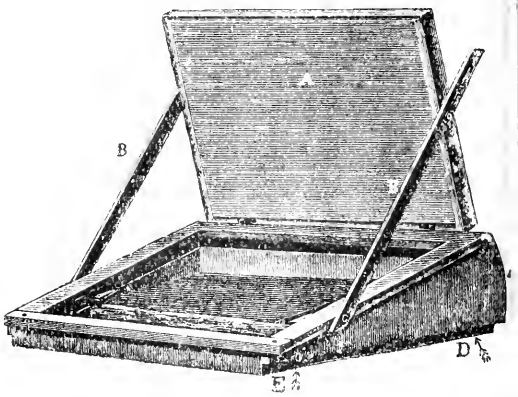


Fig. 6.

position, as they hang in the hive, and spaced a little apart. Then close the hinged lid, and raise or lower it by means of the notched hasp so much as to ensure the sun's rays striking the glass of lid perpendicularly. The reflector is then in position to let the sun do its work with increased effectiveness. Here, at Trieste, where the sun's rays are very powerful, I can use the extractor from March till September, and during the hottest part of the time I put it in such position that the noon-day sun strikes straight down on the glass. This is done because I have no time to attend to it, so far as moving frequently during the day. Better results would, of course, be got if the extractor is turned along with the sun.

The wax soon begins to melt, and running down the "melting-plate" drops into the tin basin, where it remains liquid while the sun shines on the extractor. Any husks or débris which may have run into the basin along with the wax will sink to the bottom.

As long as the zinc plate remains hot the husks and what remains of combs are easily scraped off the plate. If I happen to be present I remove all the "waste," or débris, when I see that no more wax is dripping into the basin. Otherwise I put the melting-plate next morning in the sun, and scrape all off

when the surface is warmed sufficiently to enable me to do so. Leaving the melted wax in the receiver till next morning, the solid cake is easily removed, because of its being wedge-shaped like the receiver.

The wax-extractor can also be used for the purpose of melting crystalised honey into liquid form in the comb. Naturally, one must not leave such comb too long in the extractor. Practical experience, however, will prove the best teacher in this, as in most other cases, such as how to fill, to clean, and, in fact, to *use* the solar extractor.

I have also constructed, and described in some German periodicals, a cheap solar-extractor for peasants, and have lately corresponded about the same with Mr. T. I. Weston, of Essex, who is known to your readers as a member of the Council of the B.B.K.A. Mr. Weston seems to like the idea, and, I hope, will be able to improve and popularise it for the benefit of British cottager bee-keepers.—*Trieste*, "*Villa Schröder*," *February*, 1898.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

A WAIL ON WAX-RENDERING.

[3179.] Your correspondent "Lordswood" once gave a graphic description of his early experience in melting down combs. My first attempt was a replica of his. For years I had allowed all old combs and scraps of wax to go to waste, but reading an article in the *Record* describing this as reprehensible and almost sinful, some internal spirit seemed to say "Thou art the man, and the writer has you in his mind's eye. Spook or spirit hath revealed unto him that thou art negligent, careless, wasteful, improvident." Conscience in this case did not make a coward of me, but rather braced me to be up and doing. I went in diligently for saving up carefully, until at last I had a miniature mountain of old comb piled up in my bee-shed. I tried hard to coax every available member of my household to take the rendering in hand, but no blandishments were of sufficient potency. One sunny summer's afternoon, being at leisure, I determined to try my 'prentice hand. I got all ready. A large fire was set a-going, and a copper wash-boiler nearly full of water was provided. "Sarah Jane" aided thus far. I had purchased yards of cheese-cloth, and another member of my household had sewed up some bags. I now stepped in personally, but found it all vexation of spirit. Those bags would rise to the surface. As fast as one was pegged down another would rise. It was a regular succession of bobbing up and forcing down of bags. They seemed to take a perfect delight in floating. Stones, boards, pokers, tongs, and all manner of appliances were brought into requisition. *They* kept below. Those blessed bags wouldn't. The cloth must have got cut or torn or the sewing gave way, for when at last they were partially subdued pieces of comb came swimming to the surface. It somehow happened, too, that the water would persist in boiling over, and then there was a lively few seconds for the caretaker. Luckily the experiment was carried on outside or I know not what might have happened. I fear, too, a considerable quantity of what should have gone to form my wax-cake was thus consumed, for the net result of some hours of the hottest and most uncomfortable work of my life left me with a mass of matter of the most uninviting appearance, consisting of *some* wax mixed with pieces of the escaped comb, cocoons, larvæ, dead bees, and all manner of *débris*. This clearly was not what it should be. Some one had blundered. I began to think the game was not worth the candle and that I might just go on in the old way in spite of articles in bee papers and conscience. I don't like to be beaten, however, so I had another try. I got another bag made and inserted my *conglomerate pudding* into it and boiled once more. The mass was smaller and so was more manageable. It resulted in a cake of something having a remote resemblance to wax, but on the underside it was as bad as ever. I got a "tip" from some back number of the journal and on a third boiling got this scraped off when warm. Whether from too long boiling, over-heating, or still leaving foreign matter, it was not at all a right colour. I consigned it to an appliance dealer with fear and trepidation, trusting to his good nature to right what was wrong. Now, sir, I had read every word in all the bee books I could lay my hands on and all that the accumulated wisdom of your contributors have recorded for years. Yet the result of all my labours was a small cake of questionably pure wax (I leave out of account the general mess I made for other hands to clean up, and the all but utter destruction of the clothes I wore; these are mere trifles which form the fun of wax rendering). I have a pile of comb again fast accumulating. Am I to bury or burn it? Or am I to try again? A friend says his solar wax extractor is a "white elephant," and another who has a cottager's extractor characterises it as a useless toy. My bag and boiler was a semi-failure. Who will show us a more excellent way?—F. E. I. S., *February* 28, 1898.

THE HEATHER SEASON OF 1897.

A HOLIDAY AMONG THE BEES IN CO. DURHAM.

[3180.] The heather harvest of last year in the county of Durham was very disappointing. Expectations of a good yield ran unusually high, owing to the splendid weather at the end of the clover season. Then rain and cold came, and for days together no sun was visible, bees and bee-keepers suffering in consequence.

In the autumn of '97, 300 hives were placed at Edmondbyers, co. Durham, in the beautiful vale of Harehope Burn, where, sheltered by friendly hills, the moors stretch away in miles of purple bloom. And, thinking I would enjoy a holiday "away from the busy haunts of men" and amidst the primitive grandeur of the lonely hills, a friend and myself pitched our tent beside the bees, and spent an enjoyable, though somewhat wet, fortnight amongst them. Surrounded, as we were, by so many hives, representing the apiaries of thirty or forty bee-keepers residing in the district, I had good opportunities of observing their respective merits and demerits. If space allowed much might be said about the pleasures of tent life —its healthiness, its joys, its laughable misfortunes. On the whole, however, the returns gave a woeful account of the scarcity of nectar in the heather bloom; nor can the weather be blamed for the absolute failures, as several bee-keepers obtained enough honey to cover all expenses of transport, &c., and leave a small profit in hand. Mr. Rochester, of Blackhill, was again to the front. This zealous bee-man, who loves his bees, chose a cosy site well nigh inaccessible. Taking a road leading to a stone quarry which lies on the hill side above the chosen stand, the heavy hives were lifted off the waggon, and carried down the side of the hill, and across the rocky bed of the burn, and there sat down on a prepared level. Seventeen hives were thus placed in one long row facing S.E. Whether or not the favourable situation enabled Mr. Rochester's bees to strike, as it were, a rich seam of honey, one cannot say, but the results from his hives much exceeded anything obtained from others on the same moors. No doubt much of his good fortune is due to unremitting attention to the bees, guided by thorough knowledge of the way which leads to success.

I quote Mr. Rochester's results in his own words:—"I got 228 lb. of heather honey from nineteen stocks, but five out of the nineteen yielded no surplus. The best yielded 33 lb., the next 30 lb., 28 lb., 25 lb., and so on downwards."

To quote returns such as these as being above the average is an indication of the completeness of the failure of the heather harvest in 1897 in this county; nor have I heard of any better results from the other English or Scotch moors. The wretched weather prevented us from doing many things that we had arranged to do, and rendered of no account several experiments with the bees. I noticed that those stocks with well-stored brood nests and big populations gave the best account of themselves; and this is such a self-evident truth that it might seem hardly necessary to say so, but bee-keepers are apt to trust too much to a good season, and too little to the provision of the needful army of workers. Now is the time to commence preparing for the heather season of 1898; and those bee-keepers are alone successful who send populous and prosperous hives to the moors.—J. N. KIDD, *Gateshead, February* 26.

BEES IN YORKSHIRE.

[3181.] So many remarks have been made of late in the BRITISH BEE JOURNAL on the abnormally forward condition of the hives, that it may possibly be of interest to your readers to hear of an exception to this state of things in this part of the country. I have four hives. January 22 and 24 were the only two days in the month on which the bees were able to get a flight; while in February the 24th was the only day they left the hives. I have only seen one bee return with pollen at present during this year. The crocuses in my garden are just coming out, and in general it is a more backward season in every way than last year. We are about 700 ft. above sea level. It has, of course, been far too cold to make any examination of the frames, so that I am ignorant as to the amount of brood being raised.—C. H. L., *North Craven, Yorks., March* 7.

DEALERS AND THEIR CUSTOMERS.

A BEE-KEEPER'S GRIEVANCE.

[3182.] Referring to Mr. Rose's complaint (3171, p. 76), I think the least a person can do when wanting a catalogue is to enclose postage. But it may surprise him and some other bee-appliance dealers to know that the shabby behaviour is not all on one side. With some exceptions my experience of dealers in bees and also hives, &c., has been to prove them not a whit better than the people Mr. Rose complains of. Let me state a case which has happened to me within the last fortnight. I wanted some glass honey-jars and remitted 9d. in stamps to one who advertises constantly in your paper, asking him to send me, per parcel post, one each of 1-lb. and 2-lb. screw-top jars. The cost of the jars is under 4½d., and the other 4½d. was for postage. The result was that some days after ordering I received a box per passenger-train, carriage one shilling! These two honey-jars have therefore cost me 1s. 9d., or 10½d. each. The jars weighed 1 lb. 7 oz.; packing, 4 lb. 9 oz.; total, 6 lb. Nice, was it not? The "dealer" is sticking to my full 9d., but on the next order will take it into account! What a fool I should be to send more money after this experience! My motto is, "Once bit, twice shy." I tried another of your advertisers

and sent 6d. for a 2-lb. jar, and it came prompt by next post, perfectly sound, and I may as well say the order has gone to him. People seem to forget that it is just as easy to *sell* a customer as to sell their goods. I trust you will set forth *my* "grievance" as a set-off on the other side of the question.—W. C., *Southport, March* 3.

BEES AND SNOWDROPS.

THE DUKE OF ARGYLL TO LADY TENNYSON.

[3183.] In reading Lord Tennyson's memoir, written by his son, I observe a letter from the Duke of Argyll to Lady Tennyson, dated February 28, 1890. At that time Lord Tennyson was seriously ill, and the Duke of Argyll says: "Will you tell him—it may amuse him—that his beautiful lines in the last verses on 'Spring,'

> Wavers on her thin stem the snowdrop cold
> That trembles not to kisses of the bee.

is true to nature, *except* at Inverary? We had, last Monday, an extraordinary hot sun, great calm, and a sudden awakening of the *hives*. Out they came, and our snowdrop crop being still in full force, the bees were all rushing to the snowdrops, and for the first time in my life, sitting in the garden, I saw the bees all round my seat making the 'thin stems' waver and tremble to their kisses! But his observation is none the less true of the ordinary cycle of the season and of its flowers."—E. D. T., *Eynsford, March* 4.

GLASS HONEY-JARS.

[3184.] I have often wondered that the utility of the glass honey-jar generally in use has not been questioned in your journal. It seems to me most inconvenient in shape. Doubtless it has been adopted because of its better appearance on the show-bench, although this is only a matter of comparison; and its general adoption has been due to the fact that with a lesser bulk or volume of honey in the jar the colour naturally *appears* lighter. Now I ask, Messrs. Editors, have you ever tried to get some stiff candied honey out of one of these jars when there is frost about and the atmosphere cold? If you do try you may succeed fairly well at the start, but when the honey is getting to the bottom, what price the spoon? Try it with an ordinary spoon, and I think you will agree with me that a 4 or 4½-in. bottle is the best for practical purposes; and I contend the show bench should not sacrifice the useful for the ornamental.—H. M. T., *Oxford.*

[Yes, we have dealt with honey in all its varied forms and conditions; and, as regards the curious question, "What price the spoon?" if our plan of removing candied honey from bottom of a glass jar is asked, we should say use a knife!—EDS.]

OUR WILD BEES.

(*Continued from page* 87.)

[3185.] In our last we learnt all that is necessary to enable us, with a little careful examination, to place our captures in one of the following genera:—

Order HYMENOPTERA

Division ACULEATA

Section **ANTHOPHILA** (BEES)

Family COLLETIDÆ

Tongue short, bifid.

* COLLETES.—Anterior wings with 3 submarginal cells; head and thorax densely hairy. 6 British species; 5 appear in July and August, 1 in April (Lancashire).

*PROSOPIS.—Anterior wings with 2 submarginal cells; small species, very nearly glabrous, black with yellow markings. 11 British species appearing in July and August.

Family ANDRENIDÆ.

Tongue short, acute at apex; all the joints of labial palpi cylindrical.

A.—Anterior wings with 3 sub-marginal cells.

* SPHECODES.—Species small, nearly glabrous; head and thorax black, abdomen more or less red; ♀ without pollen brush on posterior legs. 15 British species; males appear in August.

* HALICTUS.—Species small; with short hair; head in ♂ small; ♀ with only 5 abdominal segments exposed, the 5th bearing a longitudinal ridge in the centre. 30 British species; males appear in August.

* ANDRENA.—Head and thorax generally clothed with long hair; species mostly medium-sized. 48 British species; occur throughout spring and summer.

CILISSA.—Similar to *Andrena*, but with the antennæ obliquely truncate at the apex. 3 British species; July and August.

* NOMADA (Wasp-bees).—Tongue elongate; species small, wasp-like in appearance; black, with yellow markings, nearly glabrous; ♀ without pollen brush. 22 British species; spring and summer.

B.—Anterior wings with 2 submarginal cells.

DASYPODA.—Pubescence pale brown, not black; female with very long hairs on the posterior tibiæ. 1 British species; July and August, in sandy places.

PANURGUS.—Small black bees, clothed with black pubescence; tongue rather elongate. 2 British species; July and August.

Family APIDÆ.

Tongue long and acute, labial palpi with the two basal joints long and sheath-like.

(N.B. In the Andrenidæ, *Panurgus* and *Nomada* have somewhat elongate tongues.)

A.—Anterior wings with 2 submarginal cells.

a.—Pollen brush, when present, on the venter.

CHELOSTOMA.—Species small and elongate. 2 British species; May to August.

*MEGACHILE (Leaf-cutter Bees).—Species medium or large sized, robust, without yellow markings; maxillary-palpi 2-jointed. 8 British species; June to August.

CŒLIOXYS.—Without yellow markings, scutellum with two latteral teeth; ♂ with the apex of the abdomen bearing several teeth; ♀ with no pollen brush, the apex of the abdomen sharply pointed. British species; June to August.

*ANTHIDIUM.—With yellow markings; ♂ with the apex of the abdomen bearing several teeth. 1 British species; July.

STELIS.—♀ with no pollen brush; apex of the abdomen simple. 3 British species; June to August.

OSMIA (Mason Bees).—Maxillary palpi 4-jointed; species mostly rather small and robust. 10 British species; May to July.

b.—Pollen brush on the posteria tibiæ.

*EUCERA (Long-horned Bee).—♂ with the antennæ as long as the body. 1 British species; end of May.

B.—Anterior wings with 3 submarginal cells; pollen brush, when present, on the posterior tibiæ.

a.—Abdomen black with white pubescent spots.

EPEOLUS.—Maxillary palpi 1-jointed; species rather small. 2 British species; July and August.

MELECTA.—Maxillary palpi 5-jointed; species rather large. 2 British species; April, May, and June.

b.—Abdomen with long pubescence.

* PODALIRIUS (=ANTHOPHORA and SAROPODA).—Marginal cell of wing acute at the base, broadest towards the apex. 5 British species; March to July.

* BOMBUS (Humble-bees).—Marginal cell rounded at the base, broadest at the base; posterior tibiæ concave and shining. 15 British species; spring and summer.

* PSITHYRUS (Cuckoo-bees).—Like *Bombus*, but the ♀ has no pollen-brush on the posterior tibiæ, which are convex and dull.- 5 British species; summer.

c.—Abdomen with very short pubescence.

* APIS (Honey-bee).—1 British species.

* The asterisk is placed against genera of which the species are common.

In the above table I have omitted to mention one or two of our very rare genera, such as *Dufourea*, *Rhophites*, and *Ceratina*, species of which the ordinary collector is not likely to meet with; I have given also only such simple characters as will, it is hoped, be readily discernable by a novice. For a full description of our British bees the student is referred to Saunders's "Hymenoptera Aculeata," published by L. Reeve & Co.—F. W. L. SLADEN, *Dover*.

(*To be continued.*)

THE NEW STYLE OF SECTION.

EXPERT OPINION THEREON IN AMERICA.

Continuing our quotations on the above subject, we print below, from the *Bee-Keepers' Review*, an article by Mr. T. F. Bingham (inventor of the well-known "Bingham" smoker), who writes as follows:—

"Bee-keepers who are thinking of adopting the plain section can well ask themselves what advantages have these sections over those now in use? Disadvantages ought also to be considered. New separators must be procured, and either more expensive, or more perfect, shipping-cases used. Then the merchants and the clerks must be taught to lift honey carefully from the 'no-drip' case. And right here please emphasise the *no-drip* feature. With the old style of sections, having projecting edges, this caution was unnecessary. With the plain sections in which the honey comes out to the edge of the wood, there can be no question as to the constant danger. Every move will be a risk, and soon the retailer will find a drip and a loss previously unknown. Neither will the trouble stop in the shipping-case, but the section must be wrapped up and tied with a piece of twine, and the twine broken after it is tied. Does any one familiar with comb honey doubt the constant and increased danger of handling such combs? The very thought of such sections is a thought of danger. Either the shipping-cases will have to be more perfect, or the one-piece section abandoned. Sections that are not square will creep into or against one another in shipment, and no method now in use will prevent it. The least side-shake will be a menace, and separators between the rows will be as indispensable in the shipping-case as in the super.

"There is also a touch of art in the matter. Any one familiar with architecture knows the beauty of projecting edges and borders. Do the advocates of this formless 'chunk-honey' realise how thin, meagre, and lean it will look? Take away the projecting edge from a section of honey, and we see sweetness without ornament.

"The plain sections will cause the bee-keeper extra expense, the shipper extra danger, the merchant extra care, and will be a violation of the accepted lines of art and beauty.

"If they possess any advantages, it will be desirable to hear from those who have used them and can speak of their virtues before we make any changes."

To the above we add the following from *Gleanings*:—

"I have been a bee-keeper in a small way for about ten years. At present I have forty colonies; but what I don't know about the little fellows is of far greater magnitude than what I do know. For some years I have been an interested reader and student of *Gleanings*; have taken a lively interest in its descriptions, especially so in Straws. The topics in the last few numbers, in regard to separators or no separators; bee-ways or no bee-ways; fences, section-holders, and their necessary adjuncts, have been both interesting and amusing.

"On starting with bees I took good advice, and made haste slowly. I have made no radical change in my methods or fixtures, nor do I see any good reason at present for doing so. In reading *Gleanings* I have felt at times that I was years behind as regards up-to-date methods; but the wind-up for this year leaves the impression that I have been ahead. I began with the ten-frame Langstroth, and still use that size of brood-chamber, although often narrowing down to six or seven frames during the honey-flow. I have for some years used, of my own make, what I call a double chaff hive, having chaff on all sides except front and top, and on top when packed for winter. The hive contains two ten-frame brood-chambers with a 1½ in. division-board between, with room above for three crates tiered, and the hinged cover closed, the crates each hold-

ing twenty-eight $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{3}{4}$ sections, or eighty-four in all.

"I use a plain section, inclosed on all four sides by a section-holder of same width; also a cleated separator. The separator-board is $\frac{1}{8}$ in. thick, $3\frac{1}{2}$ in. wide; end cleats are $\frac{1}{8} \times \frac{5}{8} \times 5$ in. long; inside cleats are $\frac{1}{8} \times \frac{1}{2} \times 5$ in. long, so that the section is protected from propolis everywhere except top and bottom edges, thus in a great measure preventing their being stuck up with it. By the way, we have a good supply of propolis every year. This plan gives a nice clean white section, with very little scraping. Sections filled out to within about $\frac{1}{8}$ in. of the edge can be packed snug without danger. During a heavy flow there is a tendency to bulge a little at top and bottom. I anticipate the same difficulty with the slatted separator or fence at such times. I expect to try next season a few separators with the cleats, except the end ones, even with the edge of the board, that to be in two parts, with a $\frac{1}{4}$-in. space between, giving one bee-way through and also along both edges. I don't think I need paraffin paper to protect the sections.

"I have never used a queen-excluder over the brood-chamber, for, except once in a great while, I have discovered no use for it.

"Many may object to the extra trouble of separators and section-holders like mine. I think that separators and section-holders can be cleaned easier than sections can be scraped and sandpapered, and with less danger to the honey; and when compared with the present popular bee-space section taken from a crate without tops to section-holder, a bee-keeper of pride will never begrudge what little if any extra work or expense there may be."—O. E. NICHOLS.

"[If the slats to your fence came up nearly even with the top of the sections, as ours do, there would be no bulging at top as you speak of.—ED. OF *Gleanings*.]"

Queries and Replies.

[1979.] *Honey out of Condition.*—1. Could you kindly inform me through your valuable BRITISH BEE JOURNAL what is unsatisfactory or defective in enclosed specimen of honey, which does not seem to be what it should? The thin portion in bottle sent is taken from top of bulk, and that in the small box from half way down the receptacle from which sample was taken. Nothing has been added to the honey to adulterate it in any way. The only thing to which I can attribute the deterioration might, perhaps, be excessive smoking when manipulating the stock, the bees of which are vicious. 2. Can the honey be improved in any way, or how could it be disposed of? 3. For making bee-hives you recommend yellow pine, but I find on inquiry that this is expensive. Is there any other kind of wood that would do nearly as well? 4. What, in your opinion, is the best wood where yellow deal is not used?—BROWSER.

REPLY.—1. The "defect" in the honey sent is that fermentation has been started, owing either to its not being properly ripe when extracted, or to being kept in an unsuitable storing place. 2. It can be improved, so far as stopping fermentation, by immersing the vessel containing it in boiling water until the honey becomes quite clear and liquid; then, after removing any scum which may arise, stirring in a little salicylic acid solution. This will render it fit for bee-food in spring, but not very good for table use. If not used in this way, the other alternative is to make honey vinegar from it. 3. Next to yellow pine (which is far the best), white pine or spruce is used for hive-making, but the latter is very apt to shrink and crack when exposed to sun and weather.

[1980.] *Outer Cases to "Wells" Hives.*—I have made up several "W.B.C." hives myself, but I am not sure about the "Wells" hive. I have only got a drawing to go by. It seems to me the inside body would be an advantage for warmth, but from the sketch (in maker's book) there does not appear to be one. Perhaps you would kindly help me? 1. Will you, therefore, kindly inform me, is there in the "Wells" hive an inside body to hold the standard frames? Also an inside body for the shallow frames, just as in the "W.B.C." hive? or is the hive made with only double walls front and rear? 2. In transferring stocks from skeps to a "Wells" hive, I suppose there is no difference in procedure from transferring to a single hive? I mean to place the skeps on top and let the bees work down.—S. C. H., *County Clare, Ireland, February* 28.

REPLY.—The "Wells" hive as depicted in the catalogue referred to has no loose outer case to body-box, but simply a fixed double wall front and back. The same with shallow-frame surplus chamber. 2. Beyond being very careful to keep both stocks apart until the transference is complete and the skeps removed from frame-tops, the procedure afterwards is the same as with ordinary single hives.

[1981.] *A Beginner's Queries on Candy-feeding in Spring, Transferring, &c.*—Having read the B.B.J. for about twelve months, and now started as a bee-keeper, I want a brief word of advice, please. I have a stock in skep, and fearing the bees may be short of stores have put on top of skep a cake of candy, made from recipe in "Modern Bee-keeping;" but the bees have not touched the candy. 1. Does this show that they have sufficient stores on hand? 2. When should I start to feed them with syrup? I want eventually to transfer the present contents of skep to a frame-hive. 3. Which is the best

month for transferring, April or May? As I propose to cut out the combs now in skep and tie them into the frames of new hive, I ask (4), will it damage the brood if I put the combs containing such through the extractor to remove the honey (if any) in them? 5. Supposing that tape is the best material for tying the combs into frames, how soon afterwards can I remove the tapes with safety?—J. S., *Donnington, March* 7.

REPLY.—1. By no means. In fact, stocks of bees with plenty of stores on hand are, as a rule, more easily induced to take food than those wherein the bees are starving for want. Where acute want is suspected, a pint of warm syrup should first be given, then follow with *soft* candy (by the bye, is yours soft or hard?). 2. This month, if food is short. Read "Hints" last week on "Seasonable Work." 3. May is *safer* than April for transferring bees and combs to frames. 4 and 5. To put combs containing young brood through the extractor for the purpose named would, in all probability, put an end to the existence of the brood. And the fact of the question being asked makes us strongly advise J. S. not to transfer the *combs* to his frame-hive, but—as we so often advise—let the bees transfer themselves, as described frequently in our columns, by setting the skep above the top-bars of frame-hive, and allowing the bees to work down into the latter when the queen needs room for breeding purposes.

[1982.] *Granulation of Honey—Dealing with Foul Brood.*—I have often been asked: "How is it some honey remains in a liquid state for months whilst other honey, extracted and jarred off about the same time, will solidify in a very short time, both being kept under precisely similar conditions?" We have honey extracted in July which still remains liquid, while honey extracted both before and after that date is well granulated, all being kept in the one store-room. 1. How is this? 2. Which do you consider the best quality honey—that which granulates rapidly or the one which granulates slowly? Both these questions apply to clover honey. 3. Where can clear-glass honey-jars, tie-overs or screw-caps, be had at about 8s. per gross? 4. What appearance would the combs of a hive affected with foul brood last season, and the bees since dead, have at this time of the year, and would there be an offensive smell? 5. Supposing an apiary to be perfectly isolated, is it possible for foul brood to enter a colony if due care is exercised?—J. K., *Sulby, Lezayre, Isle of Man, March* 1.

REPLY.—1. The granulation of honey largely depends on the source whence the bees have gathered it. Some honeys candy very rapidly. The season has also some effect on granulation. 2. The question of quality does not apply to granulation, but white clover honey, if not mixed with that of other flowers, will remain liquid for a long time, if ripe when extracted, and properly kept afterwards. 3. Nowhere that we have yet heard of, at that price. 4. To acquire the really useful information so essential to successful bee-keeping when bee-diseases are dealt with, you should obtain a text-book on the subject. We have not space in our reply column to go into the needful particulars. There is on page 144 of Cowan's "Guide-Book" an illustration from a photo, to show the appearance of a comb affected with foul brood, and other particulars appear in the book fully explaining the very infectious nature of the disease. 5. If there are diseased stocks within two or three miles infection is possible.

[1983.] *Spring Management.*—You were kind enough (on page 470 B.J. for November 25 last) to advise me on two or three points which I inquired of you. One was to allow the entrance of hives to remain covered—except for 1 in.—with perforated zinc till March: the zinc had been placed over because of robbing. I now ask:—1. Should I remove any part of the zinc now? I noticed a great commotion round the doorway on Friday last. 2. I have at present but one stock, but am very desirous to have more. Is it advisable to allow and encourage swarming with this one, and so multiply, or buy fresh stocks? 3. I am expecting to have the chance to take a couple of swarms from a garden 100 yards from my own. I lost one swarm by not managing this proceeding properly, so should be very pleased to know the proper method of getting them safely home. Being across different properties, to remove them one yard per day is next to impossible. 4. From the same garden I shall have the opportunity of driving several skeps at the end of the season, and want to secure the bees for myself. Kindly advise me what preparations to make. I am making the frame-hives now to be ready; but to drive them into an empty hive I suppose would be suicidal. 5. Is it always a sign of robbing when two worker-bees roll out of the hive fiercely fighting. I witnessed one case of this kind yesterday, but have looked in vain for any further sign. Will you kindly reply, as before, to—J. S., *Downham, March* 7.

REPLY.—1. The zinc may now be dispensed with, and hive entrance regulated as required by sliding doors. 2. If honey is desired, we advise buying established stocks early in the season. If the contrary, then the stock may be worked for increase. Surplus and increase from one hive seldom work well together. 3. First hive the swarms in skeps in the usual manner, and place them on the ground on a cloth or newspaper, propping the skep up to allow free ingress to the bees and ventilation until evening time, when they should be removed and hived on the spot where they are to be finally located. 4. Drive bees into an empty skep and deal with as a swarm. Fighting as described is usually a sign of "robbing," but if not often seen it need cause no alarm.

Echoes from the Hives.

Carlton, Kilmarnock, N.B., March 2.—I was much surprised to notice, on February 27, quite a large number—I may safely say several dozen—of young bees issuing from one of my hives. The hive in question is one of seven, was very heavy with natural stores in autumn, and has not been disturbed since packing down in September. The queen is a young Carniolan hybrid, introduced in July, 1897. No young bees were detected at any of the other six hives, though old ones were flying freely from all. Regarding last season's honey crop in this district, practically not an ounce of honey was stored till July 10, at which time the season promised to be a complete failure ; but, happily, the white clover bloom and good weather arriving at the same time, almost an average crop was ultimately secured. On July 9 I observed the bees beginning to remove brood through famine, and before July 28 had removed 60 lb. surplus honey from one hive. However, my average did not exceed 40 lb. per hive, which, I think ,would be about the general experience in this district.—ALSIKE.

WEATHER REPORTS.

WESTBOURNE, SUSSEX, FEBRUARY, 1898.

Rainfall, 1·98 in.	Sunless Days, 3.
Heaviest fall (snow), ·62 on 21st.	Above average, 21 hours.
Rain fell on 20 days.	Mean Maximum, 42·7°.
Above average, ·36 in.	Mean Minimum, 32·5°.
Maximum Temperature, 52° on 12th.	Mean Temperature, 37·6°.
Minimum Temperature, 22° on 21st.	Above average, ·2°.
Minimum on Grass, 19° on 21st.	Maximum Barometer, 30·43° on 12th.
Frosty Nights, 16.	Minimum Barometer, 29·05° on 21st.
Sunshine, 112·5 hours.	
Brightest Day, 28th, 9·3 hours.	

L. B. BIRKETT.

FENLOE, NEWMARKET-ON-FERGUS, CO. CLARE, IRELAND.
FEBRUARY, 1898.

Rainfall, 3·45 in.	Mean Maximum Temperature, 47·46°.
Heaviest fall, ·43 in. on 25th.	Mean Minimum Temperature, 36·21°.
Rain fell on 24 days.	Maximum Barometer, 30·16 on 1st.
Maximum Temperature, 52° on 17th	Minimum Barometer, 29·05 on 21st.
Minimum Temperature, 27° on 20th.	
Frosty nights, 9.	

S. C. HICKMAN (Major.)

SELLING EXTRACTED HONEY.

BY DAN WHITE.

In my last article, November 1 *Gleanings*, page 767, on peddling made easy, I confined myself to the marketing and sale of extracted honey. I told about going to a town of 5,000 people, the plan I adopted, also my success, and that I expected this place alone would call for at least 2,000 lb. of honey. You know we sometimes allow our imagination to run too high, but in this case my estimate was too low by nearly a half. So you see, giving away a little honey and leaflets is all right ; but if you are going to put *too much* dependence upon this alone, I shall be very sorry I ever told about it. It is certainly a nice way to get a trade started.

Now, then, if we will keep in mind the most important fact, and back up our short acquaintances with honey just as good as honey *can* be, the first orders will be followed by second and third orders, and a permanent trade or demand is established. Let me tell you what I want, and that is, for every bee-keeper, especially those interested in extracted honey, to join in this good work. Say we try it, and see if we can't create such a demand that it will actually force an advance in the price of honey. Suppose we form a trust—one of that kind of trusts that the people will trust us. I will agree to form a combine, providing we combine to be not only honest ourselves, but try to get the people to combine in favour of extracted honey.

The only thing that bothers me very much in this honey business is to secure the crop of good extracted honey. Sometimes the honey flow is light, and I cannot half supply my customers. I have often read advertisements, "Extracted Honey for Sale," and sometimes I would almost feel like ordering some to supply my good old customers ; but so far I have *never* ordered a pound simply because I was afraid I should get honey several grades below my standard. It looks to me as though we have been going along all these years without giving the grading of extracted honey a thought. Every fellow has been extracting and grading to his own notion, without saying a word to the other fellows. I believe we have just as good a right to agitate the grading of our product as have the comb-honey producers. While they are polishing and sandpapering their sections, say we put such a finish on our extracted honey that we can draw a little attention. You see, they are trying to attract the eye, and we will try to attract the *palate*. No fooling. Say we commence this season—not one of us, but *every one* of us. I know we have put this off too long, but in a few years from now we shall shape things around so that manufacturers of honey-extractors will be compelled to work overtime. Then think about our getting better acquainted. If we find any black sheep in our flock we will contrive some way to weed

them out. I shall find some one of whom I am not afraid to order if my supply runs out. This will help the demand a little.

When I am scoring these chaps who are throwing out thin honey, I am all the time expecting them to come back at me. Yes; and if their cause is a just one they will. And, again, if I fail to get a good following on this line of reform, I shall then make up my mind that too many have formed a habit and are too deep in the old rut to get out. I mean they will not resist the temptation of simply dropping unsealed combs (honey in all stages) into the extractor, and, with a slight turn, out comes the honey and water.

I imagine I hear some one say, "I extract just before the bees commence capping the honey." I will admit, if one is careful enough he can get a very fair grade of honey; but possibly this subject will come up later on, then we will discuss it.

Since my last article I have learned something worse than I ever before imagined, and that is, a bee-man who actually *boasts* of getting a larger yield of honey from about ninety colonies of bees than almost any other person could have gotten. He says plainly he is after *quantity* and not quality; and by extracting each hive every day he gets the quantity. This was put into barrels, and sent to the cities. Think of probably 10,000 lb. of this stuff getting into our markets just from *one* man! How extensively is this work going on? I say, shame on such work. Dare any one say this is all right?

Talk about the dairyman watering his milk! Even if he does I can respect him just as much as I do the thin-honey man. Do I hear any one say there is no use, or not plenty of room to grade extracted honey? I believe it is a duty to call a halt on this selling water in honey, and then lay it all to the little innocent bees putting the water in there. Give the bees a chance, and we *all* know they will be honest. Shame on the man who will rob the bees of their stores and honesty too. I know if it were myself I would just let the bees cure up the honey all right: then if I were bound to sell some water I would just go to the pump and get all my conscience would stand, and proceed to do the mixing. Of course, I don't believe any one can feel just right after doing this; but you see I want it so arranged that some day, when I feel too bad about it, and no one around to hear what I say, I can unload the burden a little by just saying to the bees, "I have been honest to you, anyhow; and if the honey I watered is not all right, you may lay it all to me." I am perfectly willing to help coax any one to be honest on this line; but if we cannot bring about the desired result, why not ask for the enactment of a law something like the one applied to the maple-syrup producers of Ohio?—*Gleanings* (American).

(*Conclusion next week.*)

TRADE CATALOGUES RECEIVED.

Thos. B. Blow & Co., Welwyn, Herts.—Messrs. Blow & Co. have for the year 1898 still further added to their very compendious list of bee-goods, poultry-houses, horticultural buildings, &c. Their catalogue now fills ninety-eight pages, with nearly 200 illustrations, and includes "Hints on Successful Management." With so much space at command we need hardly say every item needed for use in the apiary, at home or abroad, is illustrated and listed at prices to suit all classes and pockets.

R. Steele, Gauldry-by-Dundee.—This is a modest but very neatly got up list of thirty-two pages, and—as may be expected from a Scotch manufacturer—full attention is paid to hives adapted for taking to the moors. Of such hives several very good ones are illustrated along with those for ordinary use, and all other apiarian requirements.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

A. J. P. (Birmingham).—*Wood for Hive-making.*—1. We have no knowledge of American "canary wood," but if there is no objectionable odour about it, and the wood is durable, it should answer the purpose. 2 Without it being positively "harmful"—as you put it—to varnish the inside of hives we do not recommend it.

TINKER (Hastings).—*Comb-basket for Wax-extractor.*—As regards the comb-baskets we have seen, they are all made from perforated zinc. We are not aware of any makers using tin for the purpose.

A. G. (Runcorn).—You may be quite sure that there are full and sufficient reasons for non-reply. Your letter has either "missed" in post or the addressee is away from home, and will attend to the matter in due course.

A. M. B. (Colwyn Bay).—*Obstacles to Free Flight of Bees—Moving Hives in Spring.*—1. We should choose the lesser risk, and leave the hives where they now stand. It might improve matters to move the hives a few feet further away from garden fence if it really incommodes the bees; but it cannot do any appreciable harm, while moving 200 yards is risky now that bees are flying often. 2. Don't open hives unnecessarily until the temperature is high enough for the bees to work well and are gathering pollen. 3. The frames of comb may be replaced on *outside* of cluster any day, but if brood is spread to admit of inserting a comb in centre of brood-nest, defer it until there are at least five seams of bees, and then only add one frame at a time at intervals of a week.

Editorial, Notices, &c.

ESSEX BEE-KEEPERS' ASSOCIATION

ANNUAL MEETING.

The annual meeting of the Essex Bee-keepers' Association was held on Friday, the 25th ult., Mr. T. I. Weston presiding. The report stated that the Association had made satisfactory progress during the year. The season on the whole was a favourable one, many of the members being able to report good takes of honey. But the financial position of the Association prevented the usual annual honey show being held. At the same time, the most useful part of the work of the Association, viz., the visits of the expert, was duly carried out. The financial position has now improved, amd fifty-six new members have been enrolled. The receipts of the year exceeded the expenditure. The Association honey label, issued for the first time last year, has been taken advantage of, over 3,000 having been sold during the season.

The hon. secretary will be pleased to put purchasers of honey, stocks, swarms, &c., in communication with members having the same for disposal if the former will let him know their requirements and the latter send particulars as to price, &c., of what they have for sale.

The committee regret that the Technical Instruction Committee of the County Council have not yet seen their way to do anything for the advancement of bee-keeping by providing instruction of any kind through the Association. In other counties lessons are given by a qualified instructor in practical bee-keeping.

The honorary secretary reported that in response to the appeal sent to each member for a donation towards the expenses of holding a county honey show at Braintree in June next had resulted in the receipt of sums amounting to £7, which is far short of what will be required for the purpose.—(*Communicated.*)

LINCOLNSHIRE B.K.A.

GENERAL MEETING.

The general meeting of this Association was held in the Guildhall, Lincoln, on Saturday, March 5, at three o'clock p.m. The chair was taken by Gerard J. Young, Esq., J.P. Among the members present were: Mr. T. and Mrs. Gregory, Rev. S. and Mrs. Wild, Miss Brewster, Messrs. F. H. K. Fisher, W. R. Lilly, J. Emerson, H. Linley, D. Seamur, H. J. Banks, F. J. Cribb, R. Godson, hon. secretary; and many others. The minutes of the previous general meeting were read and confirmed. The annual report was then read by Mr. Cribb. It congratulated the members on the continued prosperity and enlargement of the Association, and hoped the membership would in the coming year reach 500. Five new districts had been formed during the year, and others are in course of formation. Subscriptions had been given to eighteen local horticultural shows to increase the prizes for honey. Lectures had been given in the bee-tent at several shows, and also during the winter months in connection with the Technical Education Committee of the Lindsey C.C. The income during the year, including the balance brought forward, was £188 3s. 9d., and the expenditure £166 10s., leaving a credit balance of £21 13s. 9d. The report and balance-sheet were adopted. A long discussion arose whether it would not be to the advantage of members exhibiting honey at local shows to have each show limited to a radius of fifteen or twenty miles. The meeting was very divided on the matter, and the discussion was adjourned until the next general meeting. S. Maudson Grant, Esq., organising secretary of the Technical Education Committee of the Lindsey C.C., presented prizes, which were given by Mr. Lilly, to two boys who wrote essays on bees after hearing one of his lectures at Fillingham.

Mr. W. R. Lilly then delivered an interesting lecture on "Parthenogenesis as regards bees, and the effect of Fecundation of the Queen enabling her to lay Worker or Drone eggs at will." The lecturer was materially assisted by lantern slides, prepared by Mr. Lilley, the lantern being ably manipulated by Mr. H. J. Banks, of Wragby.

The meeting concluded with the usual votes of thanks, after which many of the members sat down to a substantial tea at the Lincoln Restaurant.—(*Communicated*).

THE NEW STYLE OF SECTION.

EXPERT OPINION THEREON IN AMERICA.

We this week quote an article from the *Bee-Keepers' Review* on the above subject, wherein the Editor says:—

"Last month I expressed my inability to understand *why* more perfect combs should be built in plain sections, but I was satisfied that some factor brought into use by their adoption did result in the more perfect filling of the sections. Since the January *Review* has been mailed I have received several letters and articles bearing upon this point. I have an article from a bee-keeper, now in Florida, a man who has produced 100,000 pounds of honey in his lifetime, although all of it has not been comb-honey, and he attributes the difference to the freer communication established when plain sections are used—but I must not steal his thunder, as I expect to print his article next month. I also have an article from Mr. Doolittle, taking still different grounds, and actually defending the upper row of sections in the January frontispiece—but I won't 'give him away' as I have the

Florida man; but instead, give his article next month. Then I have a letter from a Mr. C. G. Ferris, of New York, that I should like to print, but he expressly said I must not—I have hopes, however, of inducing him to change his mind. But I think I can make room for a portion of a letter just received from Mr. J. E. Crane. It reads as follows :—

"'The December *Review* was so fine that I was afraid you would scarcely be able to keep it up to that standard through the year of 1898, but I believe the January number is even better than the December. Perhaps, after all, it is because I am so much interested in the principal subject treated. I have been very much interested in the plain section; and more especially in open separators. I have material on hand for 2,000 plain sections, and 500 open separators; so I can give the subject a careful study and test the coming season. I feel satisfied in my mind that the gain comes principally in the separators being so open that the bees feel as though all the sections in a row are a single comb; or, at any rate, a more desirable place to store their surplus than in the small cubby-holes usually given them.

"'At our State convention I asked an old bee-keeper, who is a very candid man, and who once used shallow-frames, without separators, over the brood-chamber, what he thought the difference in amount of surplus honey would be, or had been with him, between the open surplus clamp and the small sections with separators. He thought the bees stored almost twice as much in the open frames as now in small sections. I guess he over-estimated; but there is evidently a point here of considerable importance. I, therefore, propose to test the matter quite fully; and shall make a part of my separators in such a way as to give the bees still greater freedom than will the fence with cleats. I shall drive little pins through the slats, in the middle, so as to project enough for a bee-space, and thus keep the sections in place, and give the bees a passage-way around the edges of each section; so that four sections will be as a frame extending clear across the clamp. After all, different hives of bees, and different seasons will produce different results. The frontispiece in the January *Review* is one of the strongest arguments I have ever seen in favour of the open separator.

"By the way, what *splendid* pictures those are in both the December and January numbers—the best I think I have ever seen. That one of foul brood was just *perfect*. I could almost smell it.'

"It is now my opinion that when we get clear down to the bottom facts in this matter that we shall find that the well-filled sections come from the freer communication that is brought in when the plain sections are used. As Mr. Crane puts it, the bees are led to feel that one row of sections is only one continuous comb. But, supposing that it *should* turn out that the securing of these fine combs are the result of the freer communication, I fail to see why the plain section should not be adopted. To my mind it has advantages over the old style."

HONEY IMPORTS.

An account showing the value of honey imported into the United Kingdom during the month of February, 1898, £838.—*From a return furnished to the* BEE-KEEPERS' JOURNAL *by the Statistical Office, H.M. Customs.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEE-KEEPING.

HOW TO ACHIEVE SUCCESS.

(*Continued from page* 64.)

[3186.] *Building up Stocks in Spring.*—An important factor in securing ultimate success is making an early start with the bees in spring. Therefore, so soon as the weather is sufficiently warm and settled for bee-operations, work must be commenced. On the other hand it is sometimes necessary to restrain the enthusiasm of beginners when a new season opens, in order to avoid engaging in premature operations, which are frequently productive of much harm. Everything should be done as early as possible to help the bees forward while taking every care to ensure that what is intended for the good of the colony does not eventuate in disaster. In writing this I have two—often much abused—bee operations in mind, viz., "Stimulative feeding in inclement weather, and spreading brood in spring." Regarding the first, no good can result from stimulating brood-rearing until the weather is so settled and warm that the bees are flying almost daily, and bringing in pollen plentifully. Far better allow breeding to go on steadily, if somewhat slowly, during the first ten or twelve weeks of the year; by this time Nature has waked up, early flowers are appearing in ever-increasing quantity, and bees are then ready to accept the inducement to greater activity

thus offered. In giving syrup food for the purpose of stimulating breeding at an increased rate, bear in mind the food is not intended to be stored in quantity. Therefore the supply should be limited to, say, for a strong stock, half a pint each second evening, and for weak stocks half the quantity, giving the food so slowly as to occupy the bees almost the whole time in carrying it down. Syrup for this purpose should be rather thin, and given warm. If given in greater quantities than mentioned, the end is defeated, because the food is stored, and cells are occupied with it which should be reserved for brood-rearing, thus throwing the bees back instead of helping them forward.

Spreading the Brood.—This is a practice which often fails, for the simple reason that the operation is performed the wrong way. I hold the opinion that the brood nest should on no account be divided into two parts by inserting an empty comb in the centre; yet this is the method almost universally followed. My own plan is to wait till the bees completely cover the frames upon which they are clustered, then place an empty comb next to the last frame on which brood is found, but on one side only. Then in a few days repeat the operation on the other side of the brood-nest as the necessity arises, owing to the increase of bees; but in no case divide the nest in two. By spreading the brood in this way, and by manipulating the feeder so that it is alternately placed over the newly-inserted comb, it forms one of the most efficient and safe methods of helping stock into condition it is possible to imagine. Having practiced this method largely myself, I am able to bring my stocks into good condition in a very few weeks. Good queens are, of course, a *sine quâ non*, and without such stimulating of any kind is not of much use. The condition of all hives and quality of the queen should be ascertained when, and not before, the weather is favourable. Weak stocks may mean old queens, but not necessarily so. If no brood is found in the hive now, it is pretty clear that the queen is either missing or failing, and steps should shortly be taken to remedy the defect.

If a stock is examined at the end of that period for eggs, and none are found, it is certain that no eggs have been laid. The queen must, therefore, be destroyed, and the bees joined to the next stock twenty-four hours afterwards. To do this, bring the stocks to be united close together; then place the queenless bees in the normal stock and remove the empty hive right away. Do not disturb the bees more than necessary; a few puffs of smoke and a sprinkling of flour on each lot of bees, and placing the frames of broodless bees by the side of the combs of the normal stock, is the whole operation, done in a few moments.

Uniting Bees.—This operation should be deferred until April is well in. When a strong lot of bees is found with an unsatisfactory queen, or minus a mother altogether, the owner naturally will feel some disappointment. He knows that if a good queen could be supplied, the bees would have plenty of time with care to make a flourishing stock by the honey time. The difficulty is to obtain good queens at this season, seeing that as such queens are already at head of good stocks, and are valuable to the possessor in consequence; while those at the head of weak stocks are doubtful property, seldom worth having. So that unless the owners of queenless bees are prepared to pay a long price, there is no alternative but joining up the queenless stock to a queened hive, or, if the former is very strong, to join a weaker queened stock up to them. This latter operation is a little difficult. The stocks must be brought together as before; the useless queen is then found and destroyed, and at the time of joining up the good queen should also be found, and placed in an introducing cage at the time of operating. Join the two stocks together with flour, as before, and then place queen on top of frames, to be released in twenty-four hours. My introducing cage is excellent for this purpose, and a description of same can be found in the "Guide Book."—HENRY W. BRICE, *Dale Park, Upper Norwood.*

SUGAR FOR BEE FOOD.

[3187.] Your interesting correspondent, W. Woodley, says, on page 43, some of us in *Gleanings* poke fun at Britishers for preferring cane to beet sugar. I have spoken of it several times, and I think no one else. Let me assure you that instead of "poking fun" at Britishers, I've been troubled that no interest could be aroused in the matter here. I believe the two sugars are chemically alike, but have an uneasy feeling that there may be a difference physiologically. At any rate, I'd be willing to pay an extra price to be sure no beets were in my sugar. Have any definite experiments been made as to relative values for feeding?—C. C. MILLER, *Marengo, Ill., U.S.A., February* 26, 1898.

[We are unaware of any experiments having been specially made with the definite object of comparing the relative values of cane and beet sugars for feeding bees, but it is generally accepted as a proved fact in this country that the chemicals employed in the manufacture of sugar from beet-root is injurious to bees, and especially so as a winter food. This is our own view, and we, therefore, strongly recommend the use of none but refined cane sugars for the purpose.—EDS.]

WOOD FOR HIVE MAKING.

THE NO BEE-WAY SECTION.

[3188.] The "canary wood" referred to by your Birmingham correspondent "A. J. P." (page 100), is also known as "American white-wood," and is very closely related to that used

n making sections. I do not consider it at all suitable for the bodies of hives, for, when exposed to the weather, decay soon sets in. It is, however, very nice working wood, and would, no doubt, do admirably for the internal parts, such as shallow-frame supers and section racks. I frequently notice a Birmingham firm advertising *pine* at a very reasonable price, "A. J. P." would therefore have no difficulty in procuring supplies. The next best wood to pine (in my opinion), is good quality "Baltic white deal."

I have been much interested in the "no bee-way section" question, now under discussion in your pages, and shall not be in a hurry to leave the old beaten track; but I must say the idea that commends itself most strongly to my mind, is the double circular saw—mentioned on page 72—to cut the bee-ways off the ordinary sections. Can we not borrow the good wife's sewing machine stand and thereon rig up two 3-in. saws on a ⅜-in. spindle? This would, I think, answer every purpose, while the "boys" of the family would just glory in working the treadle at "greased lightning" speed. I enclose a chip of "canary wood."—AMATEUR HIVE MAKER, *Withington, March* 11.

CANARY WOOD FOR HIVE MAKING.

[3189.] In your issue of March 11, a correspondent asks as to the suitability of canary wood for hive making. This wood is often used for the purpose, but is known in the South of England as "American white wood." It is of a greenish yellow colour, and you seldom look over an exhibit of appliances without seeing some of it. It is rather more liable to shrink than pine, but if well painted is fairly durable. I have never heard the term "canary wood" used so far south as Birmingham before, but this is the name generally employed in the North. White wood is often confused with American bass wood, with which we are familiar in sections and frames. The texture of the two woods are somewhat similar, but the colour is different.—T. C., *Derby, March* 12.

[3190.] *Re* your reply to A. J. P. (Birmingham) Canary wood is not good for hives, being subject to much shrinkage, and it is of too open grain and so lacks toughness. American redwood (Sequoia) is free from shrinkage and very durable. I am much pleased with Mr. Sladen's article on "Our Wild Bees."—G. M. S., *Keswick, March* 12.

"WHERE THE BEE SUCKS."

(*Continued from page* 89.)

[3191.] In the present list will be found plants that are easily grown in ordinary garden soil. The ground should be well dug and rich manure avoided, as this leads rather to exuberant foliage than to flowers. A piece of ground staked out in the open, where potatoes or cabbages have been grown, will grow flowers to greater perfection than borders which have had roses, shrubs, gooseberry bushes, &c., impoverishing the soil for years; nor will slugs be so troublesome. A plant set in an ordinary undisturbed border is like an orange thrown amongst a lot of boys. Now is the time to plant. Take hold of your spade and bring up the subsoil at every dig, and earn your flowers by your backache and the sweat of your brows! Believe me, it will give you a new hold on life.

Achillea tomentosa (woolly yarrow). A dwarf Alpine plant, related to our common milfoil or yarrow. Has bright yellow flowers in dense corymbs. Plant in full sun and poorish soil. Native of European Alps.

Antennaria tomentosa (silvery cudweed). This has been much used of late years for "carpet-bedding," and such-like atrocious garden arrangements, the flowers being picked off; but if planted in a large mass in full sun, and the flowers left on, it is one of the best bee-plants I know, being continually covered with bees. Poor soil on raised beds. Alps of Europe.

(*Continued on page* 106.)

HOMES OF THE HONEY BEE.

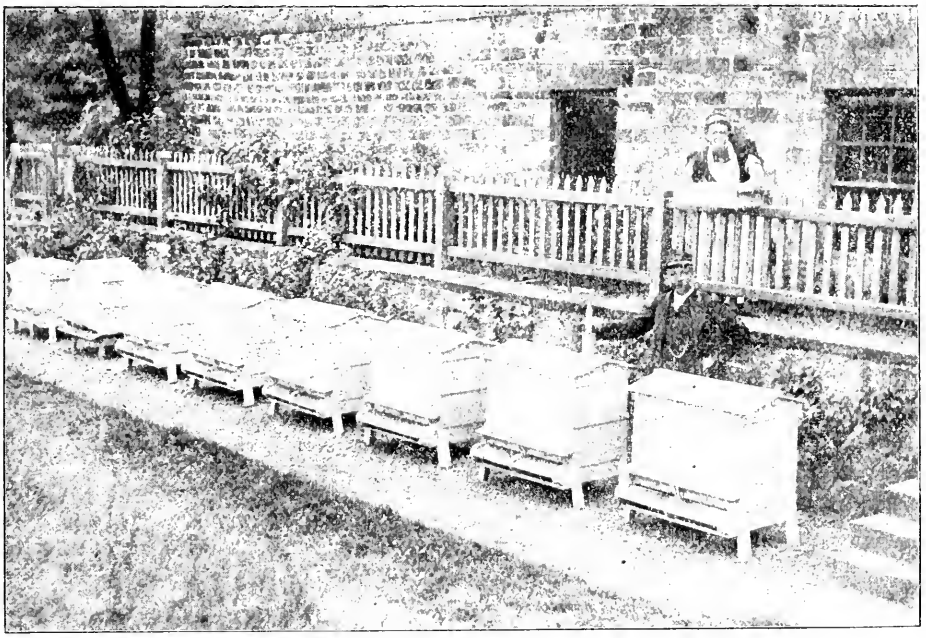
THE APIARIES OF OUR READERS.

The very neat and orderly little apiary shown in our illustration this week belongs to Mr. J. Rymer, who, along with his good wife, is seen in the picture. Writing in response to our request for a few particulars regarding himself, Mr. Rymer says:—

"My apiary is situated at Levisham Station, in the Newton Dale valley running from Pickering to Whitby. Being close to the line-side the hives can be seen by those travelling from or to Whitby on the North Eastern Railway. In the early days of railway enterprise this line was worked with horses.

"My interest in bees," he adds, "was first aroused in October, 1891, and in the following spring I began bee-keeping with two straw skeps. Having gleaned what information I could during the winter months from the "Guide Book," our two journals, the B.B.J. and *Record*, and Webster's "Book on Bees," I began to work with the set purpose of making my apiary self-supporting, and for the information of others I may tell you, this I have done, and had besides a nice little sum to spare when the seasons have been fairly good. Everything in connection with the bees have been bought with cash received by the sales of honey, including extractor, ripener, wax-extractor, heather-press, wood for hives, and a host of other things, all of the best. The only thing I have not charged the bees with is my labour, and for this I consider they have paid me well. Counting each of my "Wells" hives as two colonies, my two apiaries now

number thirty stocks. I make my own hives in the winter time all on the "W.B.C." pattern (except one or two I made at first). I have tried other patterns of double-queened hives, but I have had to do away with them, as they were not suitable for the system. For success and ease in working I cannot find a hive to compete with the "W.B.C.," and all my hives are giving way to this pattern, and they are as easily made as any other. The measurements from front to back are the same as given in the *Record* for March and May, 1894, the length of the hive and the floor-board (being in two parts) being the only variation, except that the lifts are made with an 11 in. board. Each hive is worked with are worked with "W.B.C." section rack, and I find the sections are as clean when filled as when put into the hanging frames—not a stain of any kind on them—and my sections find a sale all over England, goodly numbers being regularly sent to London, Windsor, Newport, Mon., and a good many other places of smaller note. From this latter apiary I obtain all my young queens for my "Wells" hives and to replace any that do not come up to my requirements. Being close to the Yorkshire moors, we have very little clover honey, our main source being from the heather. My wife—who is shown in the picture—assists me very materially in the preparation of shallow frame crates and section racks, fitting them with comb foundation,



MR. J. RYMER'S "WELLS" APIARY, LEVISHAM, YORKS.

four "W.B.C." shallow-frame boxes. My apiary is in two parts. The one shown in photo is my "Wells" apiary, which is close to my house; this part of my stock yields the best returns; indeed, I have never had less than 100 lb. per hive in bad seasons, and in good ones have had 196 lb. per hive. All the double-queened hives are worked for extracted honey only, as I found they were not suitable for section-work. I am never troubled with swarms and have not had a "Wells" hive to send off a swarm for the last three years. With me this system has been a great success. My fourteen single hives, standing in an adjoining field to my house, are kept mainly for section honey, which is mostly taken by visitors to our beautiful dales. These hives cleaning and packing the sections for transit (on Mr. Woodley's plan). On this I do not know of a single section having arrived at its destination damaged after a three hundred mile journey. She is my assistant when putting on crates or taking them off, and, above all, markets nearly the whole of my extracted honey, and, with a heather-press of my own design, presses many a hundredweight of heather honey. She also does a great deal in the sales of honey at our market town, and when I tell you that she has sold half-a-ton to one gentleman, all put up in 1 lb. screw-capped jars, two years in succession, and has received the same order again, you will agree she does a good deal towards the end in view, viz., making the apiary pay its way, and is, I

am proud to say, an ideal bee-man's wife. It also will show what can be done by working folks, with a little care. The above is a clear and unvarnished tale of an apiary that has built up itself and I trust will be of some use to those commencing in the craft, and I would add to all beginning, "be guided by those old veteran writers in our Bee Journals, and you will succeed!"

It is always a pleasure to hear of those who make a success of bee-keeping, and it is doubly pleasant to learn of cases where the bee-man's better half is as energetic and helpful about the bees as himself. Mr. and Mrs. Rymer can thus not only secure honey, but manage to convert it into cash, and that without mention of any difficulty in finding a market for their produce. May their good example stimulate other to do likewise.

CORRESPONDENCE.

(*Continued from page* 104.)

Arabis albida (white rock-cress). One of the very best early flowering bee-plants. Happily well known and abundant in most gardens. Mediterranean region.

Aster alpinus (Alpine daisy). Most of the asters (Michaelmas daisies) of gardens are tall, and not much worked by hive bees; this charming little mountain plant, however, is very dwarf, and when planted in a good mass, is well liked. Slugs are also very much attached to it. There is a white variety. Alps of Europe, &c.

Astragalus hypoglottis (purple milk-vetch). A pretty, dwarf native plant, inhabitant of chalk hills and downs. Thrives best in a sandy or calcareous soil. There is a white variety.

Aubrietia deltoidea (rosy rock-cress). The varieties of this, such as *A. Bougainvillea, A. Campbellii, A. Leichtlinii,* &c., should be freely planted as edgings, or on rockwork, banks; in fact, anywhere. It hides itself in blossom, and the bees are as fond of it as they are of its relative, the *Arabis*. Europe.

Buxus arboreseens (box). This has been recommended in books. I have had no opportunity of testing it.

Berberis Darwinii and *B. stenophylla* (Barberry).—Although lovely garden shrubs, and, when established, loaded with blossom, yet they do not seem very attractive to bees, although often recommended.

Borago officinalis (borage).—Too well known to need description. One of our best bee-plants, flowering continuously until cut down by frost.

Caltha palustris (marsh marigold, king-cup).—A handsome native plant, which should be freely planted in wet meadows, &c., where it does not already exist. It yields pollen freely in early spring.

Campanulas (bellflowers). — These flower when the field flora is very abundant, and probably for that reason are somewhat neglected by the bees. I have grown some sixty or more kinds. A few of the very best for ordinary culture are *C. caespitosa, C. carpatica, C. grandis, C. lactiflora, C. persicifolia, C. turbinata.* There are white varieties, some of which are very lovely. Ordinary garden soil.

Centaurea montana (perennial cornflower).—Some years the bees are very fond of this and its white and pink varieties. The last is the handsomest of the trio. Alps of Europe.

Cheiranthus alpinus (Alpine wallflower).—I can recommend this to those living in bleak localities, where the common wallflower is so often killed. Increased by cuttings in autumn, and has bright yellow flowers in great quantity.

Chionodoxa luciliæ (snow-glory).—Probably the most beautiful of all early spring flowers, especially the varieties *C. alleni, C. gigantea, C. sardensis.* The bulbs are now as cheap as snowdrops, and the seed should be saved and sown. Sandy soil. Asia Minor.

Cotoneaster microphylla.—This useful shrub might be planted to cover many a wall that is now bare. It is very free flowering, and in winter is decked with dark red berries.

Crocus aureus (golden crocus).—There are a hundred or more species of crocus in cultivation, the flowering season extending through the winter from September till April, so one need never be without a flower if these are planted in variety. I can recommend the following:—*C. biflorus* (and its varieties), *C. cancellatus, C. chrysanthus, C. imperati, C. iridiflorus, C. nudiflorus, C. reticulatus, C. Sieberi, C. speciosus, C. vitellinus, C. zonatus.* These, however, from the bees' point of view, are not to be compared to *C. aureus*, the common yellow crocus of gardens, which is probably the best pollen producer of early spring.

C. vernus and its varieties (grown in Holland) are sold cheaply in autumn, and most gardens contain specimens; but, compared to *C. aureus*, it is of little value to bees. Greece, &c.

Eranthis hyemalis (winter aconite).—This is the bravest little plant, often in flower on January 1. It is like a buttercup set in an Elizabethan frill. Will grow anywhere, and should be freely planted. Europe.

Echinops sphaerocephalus, &c. (globe thistle).—These handsome plants are favourites of the bees, and should be represented in the bee-keeper's garden. *E. bannaticus, E. ritro,* and the one named above are the best. Europe, &c.

Erigeron caucasicus (fleabane).—A good bed of this is a glorious sight. The bees are fond of getting their feet into the flowers, and doubtless their tongues. *E. speciosus* is also a lovely thing, and is much grown for market. Other good kinds are *E. glabellus, E. phila*

delphicus, E. pulchellus, E. Roylei, E. salsuginosus.

Erica carnea (pink heather).—Most heathers flower in autumn, but the one named here flowers in early spring, and may often be seen lighting up cottage gardens in March, together with primroses and violets and daphne and daffodils.

Those who are fond of variety should also grow the following :—*Calluna vulgaris alba* (white ling), *E. cinerea* (Scotch heather), and its varieties, *alba, coccinea*, &c. ; *E. ciliaris, E. mediterranea alba, E. Mackieana, E. carnea alba* (*carnea alba*, not my naming, please note !), *Eryngium amethystinum* (sea holly), I do not believe these are of much value. *E. alpinum, E. Bourgati, E. giganteum, E. maritimum, E. oliverianum, E. planum* are the best known and most procurable.

LORDSWOOD.

(To be continued.)

Queries and Replies.

[1984.] *Transferring Bees from Boxes to Frame-Hives.—Measurements of "W. B. C." Hive.*—I have just started bee-keeping with two driven lots in boxes about 14 in. square. They have holes in the top for feeding. 1. Would you advise me to transfer them into bar-frame hives, or place supers on the top of boxes for this season ? 2. Can you kindly give me, through the B.B.J., the inside measurement of the brood chamber of the "W. B. C." hive ; also the outside measurement of the outer case ?—W. L., *Basingstoke, March* 14.

REPLY.—1. The best course will be to wait till the boxes show signs of being fairly full of bees ; then, after first preparing the new hive by fitting the frames with full sheets of foundation, lift the box bodily from its floor-board, and set it on top of frames in new hive, which latter must be placed on the old stand. The bees will then work down into the frame-hive, and transfer the brood-nest thereto. As brood hatches out in the box above, the combs will be filled with honey, and can be removed as a super. 2. Full measurements of the hive, with sketches of the several parts, appear in B.J. of February 1 and 8, vol 22, and may be had from this office for 2½d. in stamps.

[1985.] *Nucleus Swarming.*—In "Guide Book" (page 94) we are advised to cage the young queen for fear the bees coming home from the fields empty would attack her. That seems to me a loss of eggs that would be laid during the time she is caged. Would this plan answer :—Place an empty skep on the stand after removal of the stock which is to be swarmed. The skep will collect the flying bees ; in the evening remove the skep and place a hive fitted up with empty combs on the stand and throw the bees from the skep on a board in front of it, and as they run in shake the bees from the nucleus with the queen among them, so they all run in together and unite peaceably ? Or (2) substitute the frame-hive for the skep ; supply the queen in the evening by one of the "direct introduction" methods. 2. With reference to introducing queens, would not the bees liberate the queen placed in a "pipe-cover" cage by gnawing through the comb, as it is stated they do when using a "Peet" cage ?—A TEN YEARS' READER, *Colchester, March* 14.

REPLY.—1. If there was anything in the methods proposed likely to improve on the plan referred to, we should be only too pleased to advise the adoption of one or other of them, but they involve a lot of trouble to meet a very simple end. Far better follow the "Guide Book." The eggs lost through caging the queen for a few hours are of small account where the safety of the queen is the object aimed at. 2. Bees will not liberate a queen from a pipe-cover cage in the way mentioned.

[1986.] *A Lady Bee-keeper's Troubles and Inquiries.*—Can you account for the demise of enclosed bees ? The hive was *apparently* perfectly right a few days previously, but when, last Friday (the first suitable day), I opened the hive to see if the stores were holding out, I found about a quart or more of dead bees at the bottom of the hive. The mortality was quite recent, as some bees in fact were still quivering out their little lives. To all appearance the conditions were *exactly* the same as many of the other eleven hives with east aspect ; *plenty* of quilts ; bees on six frames, and still several patches a few inches square of honey on the frames. I admit the food was running short, but one or two other hives were in worse plight, but no catastrophe. I saw the queen and sealed brood and hatching bees on two frames (ditto in the other hives). The entrance was by no means blocked, though narrowed to 1½ in., and the bees had free ingress and egress—so suffocation is not the cause. I therefore ask :—1. Is it possible that, stores being somewhat short, the poor elderly bees gallantly committed wholesale suicide, to leave abundance of food for their younger and, therefore, more useful successors ? or did *some* get chilled and drop off their perches, and their mates, hypnotised at the sight, drop on the top of them ? 2. Is there post-mortem evidence of fighting or being killed by each other, or by disease, or *what* ? No robbing or fighting *outside* hive took place. 3. I swept the dead bees off floor-board and gave the survivors a frame of honey from a more abundantly provided colony. Could I do more ? I looked at them to-day and they *seemed* all right, though diminished (thick on four frames). I have wintered twenty-seven

hives, but one I found to be queenless with only a handful of bees, so put a stronger next-door-neighbour half-way between, and removed the combs and hive, so the few bees *may* join the others. Most of my hives are very strong, some on eight or nine frames, boiling with bees and plenty of *natural* stores. The weather has been too cold for me to *examine* the hives ; but I could not resist *quickly* peeping into two and found brood *eggs* and young hatching bees, and suspect the same in *most*, as pollen was freely carried in in our mild January and February, but the intense cold of the past three weeks checked this, but I have not *seen* any miniature brood cast out. *All* my bees are driven lots acquired from neighbouring cottagers during the last three autumns, except six from my own swarms last summer, and two artificial swarms that I made, and are doing well. So it is not bad only to have lost one stock in twenty-seven, and this one was a *single* driven lot, and I am not sure of its having had a queen last "fall," so I did not deserve to keep it. 4. Ought I now to feed with syrup those colonies that still have plenty of sealed stores? Would this stimulate the queen, or do such colonies not need it? 5. Can you tell me the right name of "white rock?" Is it *Arabis melica*, or some such name? 6. Is it of any use to keep three splendid *wide* shallow-frames of honey, each weighing over 5 lb., for show purposes this coming season? All the schedules seem to have classes for present year's shallow-frames only. — QUEEN BEE, *Bridport, March* 14.

REPLY.—1. It is safe to say the bees have perished from a common misadventure to which they are subject to in the winter months, viz., death from inanition owing to their getting accidentally separated from the cluster, and succumbing from cold, and want of the power to reach the food. It need not cause alarm when a "quart" of bees are lost from this cause. 2 and 3. No, or of anything beyond what is stated above, nor is there need for more than clearing the floor-board as stated. 4. If food is plentiful there is no need to give syrup. If it is desired to stimulate the bees to increased breeding a week or two hence it may be done by uncapping a small portion of the sealed stores at intervals of a few days. 5. The botanical name of the "white rock" is *Arabis albida*. 6. There may be some shows where comb-honey of '97 is admissible, but we cannot say offhand.

[1987.] *Drones in February.*—Referring to my query, noting drones flying on February 24, and your reply on page 90, suggesting "drone-breeder" queen, I have to-day had an opportunity of examining, and find plenty of worker brood in all stages, with fair sprinkling only of drone ditto. I may say, on first hearing of the case I suggested the same explanation as you gave, and am now more interested in having verified my opinion. 2. It is, to me, the earliest date yet noted for drones to be flying freely from a strong, but normal stock. Is it not a very unusual thing?—R. GRINDROD, *Hereford, March* 14.

REPLY.—Yes ; it is exceptionally early, and bears strong testimony to the abnormal mildness of the past winter.

[1988.] *Beginning Bee-keeping.*—Having commenced taking your valuable journal, as a beginner in connection with bees, I shall feel grateful if you can give me a little advice, as I am very much interested in them, know nothing but what I have read, and desire to be proficient in the business. My two hives are (1) driven bees put in in the summer, and (2) a swarm purchased from a neighbouring bee-keeper. I do not think they are at present in a good position, and should like to know :—1. If I could move them and when is the best time? 2. Can I move them any distance, and should the hives be kept closed for a few days beforehand? 3. Do you consider bees do best near the ground, or would they be better raised, say 8 ft. to 12 ft. therefrom? Then, as regards swarming, we have a nursery, but do not grow any trees. 4. Is there anything I could plant for them to swarm on or help them in any way so far as clustering? 5. Is it proper to extract any honey from the body-box in the hive, or is it necessary to leave that and put on extra frames in addition to sections in order to have extracted honey? 6. Which do you consider to be the best hive to get, as I shall require a new one (for an amateur beginner myself), hoping you will not think my questions out of place.—J. J., *Belvedere.*

REPLY.—1. and 2. The hives should be moved on the earliest suitable day. For plan of procedure see reply to W. T. (Lampeter), on page 110. 3. Near or on the ground is far the best. 4. Some fix up decoy bushes at uitable heights for swarms to cluster on. Low-growing trees would certainly help in the direction named. 5. Never extract from brood-chambers unless the combs are clogged with honey and the queen is cramped for egg-room. 6. Get a catalogue from one of our known advertisers and choose for yourself. We don't care to recommend one hive to the detriment of others perhaps equally good.

[1989.] *Transferring Bees.*—I am going to put a stock of bees (in a skep) on top of frames at the end of April or early in May, and I note you always say "fit up frame-hive with full-sheets foundation." What I ask is this, would not frames of clean worked-out combs be better (as I have some by me), would not the queen commence earlier below in the ready built combs, and would it not be lessening the bees' labour?—"DERFLA," *Gambrill, Ascot, Berks.*

REPLY.—Good clean combs will do very well, but these are not often on hand.

[1990.] *Assisting Cottager Bee-keeper.*—A poor man—aged and a cripple—belonging to my district, who makes good honey which obtains prizes at our local flower show, has drawn my attention to paragraph 3117, p. 507, in your number for December 23, 1897. The writer of the paragraph (D. J. C., King's Lynn) speaks of sending honey to London and getting 9d. and 10d. per lb., and having nothing to pay for bottles and packages nor for carriage. My poor friend, who is trying to keep out of the workhouse by his honey, cannot get an offer of more than 5½d. per lb., and even then has to find bottles and packages and to pay carriage. Moreover, he was informed by the firm (a wholesale druggist) who make this offer, that this is the usual price they pay. Would your correspondent object to advising my poor old friend where or how he can find a better market?—J. G. M. S., *Suffolk, March* 15.

REPLY.—We hope that any readers able to offer a word of advice in the direction named will kindly send it on to this office, either for publication in our pages or for private use. In the latter case we will forward the information to our rev. correspondent.

Echoes from the Hives.

Hatfield Heath, Harlow, Essex, March 14.—I had not, previous to yesterday, been able (from various causes) to take a peep at my bees. Though well cared for last autumn, I felt some anxiety as to the condition of some of my stocks. I was able to ease my mind yesterday, and, as the weather and other conditions worked together to make it a good time for opening hives, I made a thorough examination of the whole of my stocks, and did the necessary spring cleaning. There is evidence of the exceptionally mild winter in most of my hives in the reduced number of bees and large consumption of stores. Evidence is not wanting either that the unusually early efforts of the bees to increase their numbers received a blow, when the recent severe weather set in, in the form of chilled brood, some of which has been removed, and large patches of cells are now empty, which it is evident have been occupied by brood this year. My queens are laying, and in some of my best stocks there is brood in three combs, and seven or eight seams of bees. I found two stocks getting dangerously near the bottom of the cupboard, but the condition of the whole may be put down as good. With suitable weather, the bees could now gather abundance of pollen, and some honey from the palm-willow, of which there is a quantity in this neighbourhood. The crocus and snow-drop have wasted their substance on the withering wind that we have had during the last few weeks.—WILLIAM LOVEDAY.

Withington, near Hereford, March 11.—There is promise of an excellent bloom on fruit trees of all sorts in this neighbourhood. My own trees—some 200 or so young ones I have grafted during the last four years—are many of them already bristling with blossom buds, so with these and many neighbouring orchards things promise well, and bees should have a good time so far as building up strong for the clover and limes.—J. G. G.

SELLING EXTRACTED HONEY.

BY DAN WHITE.

(*Continued from page* 100.)

I believe one can write much better and easier if he reads what others say on this line, and I feel like thanking Emerson Taylor Abbott for what he says in January 1 *Gleanings*. He talks as though it were getting to be quite the fashion to rail about the farmer bee-keepers. I don't understand it that way. My aim is directed at those who are making bee-keeping their main business. Bro. Abbott, closes with precisely my sentiments: Go to work and produce a little better honey than our neighbours, and then sell it at home, or as near home as possible. Yes, sir, Bro. Abbott, I have been doing this very thing ever since I learned to sell nothing but the very best perfectly ripened extracted honey. My first two years' experience was a little on the thin order, and the injury done to my home market during those two years can hardly be described. At that time I hardly knew what to do with just a few hundred pounds of honey. *Everybody* has gone back on extracted honey. I know all about it, because I was doing my best to sell what little honey I had. "*I don't like extracted honey*" got to ringing in my ears so I could hardly sleep. Sometimes the tune would change—"*I* want comb honey." I had tried to produce comb honey, but made a failure at that, and how I was going to pay about $1,000 debt for hives and fixtures was a stickler. It is a wonder I continued in the business, but I found out I could fool the people *some* of the time, but could not fool them *all* of the time, and so I concluded I would just go at this honestly, with no fooling about it. Had I not mended my ways, possibly I should now be dumping my product in Bro. Abbott's market. Certainly I should not have had any control over a home market. There is no theory about this right and wrong way of doing any business. Facts are what we want—actual facts.

I wish I could say a few words of encouragement about placing extracted honey in the hands of grocers, but I cannot do it. There are several serious obstacles in the way. Putting it in attractive packages, and commission, make it too near the price of comb honey.

Then many honestly believe that liquid honey put up for the grocery is not pure honey. So many people consider honey a luxury, even if sold very low, they will not take it from the grocers as they should before we can ever throw our honey on the market as we want to. We must, in many places, educate the people by commencing in the common branches, and we must be so thorough that we finally see them graduate. Say we bee-men join hands by doing our part first-class in every respect. Suppose we say less about the mixer and adulterator, and hunt out these chaps who will continue extracting this thin, green, raw unripe stuff. Many a time this stuff has been called adulterated honey; and is it to be wondered at, when we consider the wide difference between well-ripened honey and poor unripe honey? I believe I understand why so many extract poor grades of honey; and if I have any occasion to say any more about this I will tell you about it.—*Gleanings* (American).

TRADE CATALOGUES RECEIVED.

Geo. Rose, 50, Great Charlotte-street, and 41, Moorfields, Exchange, Liverpool. Also at Preston and St. Helen's.—Mr. Rose this year supplements his large seed catalogue with a still further extended and well-illustrated list of bee-goods, which latter seems to include every possible requirement for the apiary. It is aptly termed an "Up-to-Date Catalogue of Bee-Hives and Appliances," and Mr. Rose may equally well be described in American parlance as "a wide-awake tradesman who intends to make things *hum*." Anyway, if increase and extension of business premises mean success, the very original methods adopted by Mr. Rose seem in a fair way of attaining it. "I am not a faddist or a cheap Jack," he says, "but a business man intent on pleasing you." "Goods per first train" in return for cash is another strong point with him, and as every article is apparently priced in plain figures, no mistake can be made on either side. These are points which all concerned would do well to lay stress on.

W. R. Garner, Steam Hive Factory, Dyke, Bourne.—This is a neat and compact list of bee-appliances. The hives illustrated, though not numerous, are well chosen, and all of useful types. Mr. Garner has, we observe, registered a new metal divider for "no bee-way" sections, which will no doubt receive full attention and trial in the coming season. This divider may be had both slotted and plain as desired, so that both kinds may be tried alongside each other.

Brown & Sons, 41 and 42, Baldwin-street, Bristol.—This is a small, but well-arranged list of requirements for the apiary, sufficient for those who need no illustration to explain what is needed for use and utility.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

W. T. (Lampeter).—*Moving Bees—Painting Hives—Using Queen-Excluder Zinc.*—1. It is a risky matter to move hives forty yards in mid-March, when bees are taking frequent flights. The risk may, however, be minimised or lessened somewhat by moving the hives after cold weather has kept the bees indoors for two or three days, and adopting measures to so alter the outside appearance of the hives that the bees will notice the change on taking their first flight from the new location (a board laid up in front of entrance will do this if the bees have to pass round it in starting out). In a few days the hives may resume their ordinary appearance. 2. Paint the hives any colour your employer may prefer It makes no difference whatever to the bees. 3. The best aspect for hives is facing S.E., but do not let it trouble you if they are shaded part of the day. 4. When working for extracted honey we strongly advise the use of excluder zinc between brood and surplus-chambers, but some experienced bee-keepers dispense with the queen-excluder below section-racks when working for comb-honey. Try both plans (with and without zinc) in the latter case, and follow that which you find answers best.

Jas. Hedding (Cambs.).—*Removing Propolis from Glass.*—Either methylated spirit or spirits of wine will readily dissolve propolis.

M. D. E. (Stamford-le-Hope).—1. *Transferring Bees.*—See reply to "W.L.," p. 107. 2. In our reply (on p. 89)—stating that an experienced bee-keeper would "prize off the roof, and, after ascertaining the exact condition of things, take his measures accordingly"—we inferred, of course, that the "measures" would depend on the state in which he found things inside the roof and on the tops of frames. Seeing that the "condition of things" found on such occasions varies all the way from a few inches of comb attached to the roof and no bees there at all to a roof full of comb, honey, and bees, it is obvious that only those who saw for themselves could tell what to do.

W. F. H. (South Croydon).—*Under-sized Drone Cast Out.*—The fact of the drone being under-sized or aborted quite explains its being cast out by the bees. It may mean no more than that the drone larva was insufficiently nourished when in the larval state.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual general meeting of members was held in the Board-room of the R.S.P.C.A., 105, Jermyn-street, S.W., on Thursday, the 17th inst., under the presidency of Mr. E. D. Till, Vice-Chairman of the Council. There were also present the Hon. and Rev. Henry Bligh, Miss E. E. Egginton, Miss M. L. Gayton, Major Fair, the Revs. W. E. Burkitt and R. L. G. Pidcock, Messrs. Sannyer Atkin, R. T. Andrews, R. C. Blundell, H. W. Brice, T. Bevan, G. J. Buller, W. B. Carr, A. C. Clements, J. S. Greenhill, Wilfrid Gutch, R. Hamlyn-Harris, W. H. Harris, J. Helsby, Henry Jonas, G. H. Morrell, C. Moult, J. H. New, P. Scattergood, jun., Archibald Seth-Smith, W. J. Sheppard, Ernest Walker, W. B. Webster, T. I. Weston, F. B. White, J. Willard, and the Secretary.

The minutes of the last annual general meeting were read and confirmed.

The Secretary having read the report for the year 1897, its adoption was moved by the Chairman. Mr. Till said that whilst the Association had failed to accomplish all that had been attempted, yet much good work had resulted from the efforts of the Council during the past year, and that the report might be considered a satisfactory one. The motion was seconded by Mr. A. Seth-Smith, and carried unanimously.

Mr. Scattergood moved a vote of thanks to the retiring Council and officers. He thought that the work of the society for 1897 might be well summed up in the one word "success." This was brought about by their having the right officials at the head to manage the affairs of the Association, and it was with increased pleasure he moved the resolution which had been entrusted to him for the third year in succession. The vote was seconded by Mr. R. C. Blundell, and carried.

On the motion of the Hon. and Rev. Henry Bligh, seconded by Mr. W. B. Carr, thanks were accorded to the Council of the Royal Society for the Prevention of Cruelty to Animals for the gratuitous use of their Board-room for Council and other meetings.

At the instance of Mr. Weston, seconded by Mr. Hamlyn-Harris, it was unanimously resolved to re-elect the following officers for the ensuing year, viz.:—President, the Baroness Burdett-Coutts; Vice-Presidents, Sir James Whitehead and the Presidents of Affiliated Associations; Treasurer, Mr. W. O'B Glennie; Auditor, Rev. R. Errington; Analyst, Mr. Otto Hehner.

The Chairman moved, pursuant to notice, "That the number of members of the Council be increased from fifteen to twenty-one." This resolution, said Mr. Till, was brought forward with the double object of securing a better attendance at the Council meetings, and of bringing into active association with them some of the prominent promoters of the industry in various districts. Mr. Carr seconded the motion, which was carried.

The election of the Council was then proceeded with, and resulted as follows:—Mr. R. T. Andrews, Rev. G. W. Bancks, Hon. and Rev. Henry Bligh, Mr. R. C. Blundell, Mr. H. W. Brice, Sir T. D. Gibson Carmichael, Bart., Mr. T. W. Cowan, Mr. W. Broughton Carr, Major Fair, Miss M. L. Gayton, Mr. W. H. Harris, Mr. J. M. Hooker, Mr. H. Jonas, Mr. J. H. New, Mr. F. B. Parfitt, Mr. P. Scattergood, jun., Mr. W. J. Sheppard, Mr. E. D. Till, Mr. Ernest Walker, Mr. T. I. Weston, and Mr. C. N. White.

It was moved by Mr. Brice, "That at future shows under the auspices of the B.B.K.A., the principle of single judging by adopted." The effect of such a resolution as that proposed would be, said Mr. Brice, that much valuable time would be saved, the earlier publication of the awards would be secured, the Show Committee would be in a much better position to form correct opinions upon the capabilities of gentlemen appointed to act as judges, and the responsibility for the awards would be an individual one. He also recommended that affiliated Association be asked to send in the names of gentlemen considered to be efficient judges of honey and appliances, to enable the Show Committee or the Council to draw up a printed list of judges, from which list selections may be made from time to time as occasion demands. Some discussion ensued on the wording of the resolution, which was eventually amended to read thus: "That at future shows under the auspices of the B.B.K.A., the principle of single judging be recognised when considered to be advisable either by the Council or the Judges." This was seconded by Mr. Weston, and adopted.

It was also resolved, on the suggestion of Mr. Weston, that the names of the judges selected to officiate on behalf of the B.B.K.A., be published in the BEE JOURNAL, when the appointments have been confirmed.

A vote of thanks to Mr. Till for presiding concluded the proceedings.

A meeting of the Council for 1898 was subsequently held for the election of the various committees and other formal business.

It was decided to hold an examination for first-class expert certificates on May 5, and for second-class on November 18 and 19.

CONVERSAZIONE.

The members reassembled at six o'clock, after a short interval for refreshment, when Mr. W. H. Harris was voted to the chair, the company present including—Messrs. S. Atkin, R. T. Andrews, Hon. and Rev. H. Bligh, Rev. W. E. Berkitt, H. W. Brice, R. W. Blundell,

T. Bevan, G. J. Buller, W. B. Carr, Miss L. M. Carr, Miss Egginton, Major Fair, Miss Gayton, J. S. Greenhill, A. W. Horlick, R. Hamlyn-Harris, J. Helsby, W. H. Harris, H. Jonas, James Lee, R. Lee, W. Baird Murton, W. P. Meadows, J. H. New, W. J. Sheppard, G. A. Shaw, J. Sterry, E. D. Till, E. H. Taylor, T. J. Weston, E. Walker, F. B. White, J. H. White, W. B. Webster, and others, whose names appear on page 111.

The Chairman opened the proceedings, and invited the exhibition and explanation of any new inventions or contrivances relating to bee-keeping.

Mr. Young, secretary of the B.B.K.A., produced a "swarm catcher" sent by Mr. Seamark, of Cambridge, but as no description of its merits had been provided by the maker, he was unable to state what were the advantages claimed for it. Mr. Seamark had, however, said that "those who tried it would not be without it."

Mr. Carr and Mr. Brice agreed that this appliance was evidently on the lines of many already in existence, regarding the efficacy of which it was a question of practical experience.

Mr. James Lee next exhibited a rack of sections, fitted up in the new style of "no bee way," which, he observed, was an American idea. In the one shown there was a slight modification of the system advocated by Messrs. Root, of Medina, whose cleated separator gave a depth of three-sixteenths of an inch in the cleat. He contended that if they adopted three-sixteenths of an inch as the thickness of the "cleat," the face of the comb would be brought out quite level with the edge of the section, and it would consequently be impossible to glaze it. He (Mr. Lee) had reduced the size to $\frac{1}{8}$ in. *full*. The width of the section Messrs. Root sent out was $1\frac{1}{2}$ in., and would weigh something under 1 lb. when completely filled. They were separated by a wooden divider or fence, which, as could be seen, was made from four narrow slats of thin wood held together by the narrow pieces of wood called cleats. In the "Root" separator the spaces between the horizontal slats of wood did not allow of bees passing through, being spaced $\frac{1}{8}$ in. apart, but he had spaced his slats so as to give the same bee way as in the ordinary excluder zinc. He did this believing it would be a great advantage if the bees had free passage way between the sections. He also thought that separators made of wood were far more grateful and suitable to the bees for clustering on than metal.

Mr. Carr thought that, so far as the bees building the comb within the frame or sides of the section, so as to be capable of glazing or of safely crating, the question resolved itself entirely into one of measurements; that is, whether the bees could get about with facility into the different parts of the section rack, and, for the rest, whether they could work sufficient honey into the section to make it weigh 16 oz. He was more than afraid they would not be able to do it with a section $1\frac{1}{2}$ in. wide. Again, it would be noted that with the plain section and cleated separator, the bees could only pass from one row of sections to the other by going down into the brood chamber and then reascending to the rack of sections overhead.

Mr. Lee, in reply, said that with ordinary T girders the bees could travel from one section to another throughout the whole rack without going to the lower chamber of the hive. The plain sections would work equally well under such conditions.

The Chairman inquired what special advantage there was in the system they were discussing, to which Mr. Lee replied very little at all, so far as he could see. They had only to look at some of the best filled sections, worked in on the plan already in use, to know that it was impossible to beat them.

Mr. Carr remarked that the new method had been already referred to at some length in the B.B.J., but he thought no definite opinion could be formed on it until after a fair trial in this country. They must not, however, regard American bee-keepers as knowing nothing about the matter, because there were single bee men there who produced many thousands of sections in a year; in fact one gentleman had turned out something like 20,000 in one year, so that opinions coming from that country must be respected, especially as it was claimed by those who ought to know that the invention in question was a great step in advance.

Mr. Brice showed, on behalf of Mr. W. R. Garner, of Dyke, Bourne, a rack of the new style, or no bee-way, sections, fitted with Mr. Garner's Registered Metal Separators. After explaining the main features of the appliance so far as he understood it, he left it for the inspection of those present, merely adding that the separators could be had slotted as shown or without slots.

The Chairman thought that metal separators were not so advantageous for preserving the heat of the hive as wooden ones, and his own experience was against them. They expanded through the warmth, and were thus inclined to bulge. Wood, on the other hand, was a bad conductor of heat. The section-rack that Mr. Lee had previously passed round, to his mind furnished an excellent kind of separator, and one not likely to be broken easily. Thin ones might split occasionally, but there was no danger with such strong ones as those shown.

Mr. Andrews considered that Mr. Garner's tin separators before the meeting were much stronger than those ordinarily in use, but it seemed to him that if a pound of honey were to be obtained from the narrow sections exhibited, they must necessarily be filled out as far as the outer edge, so that in packing or glazing sections the honey in the sealed combs must necessarily be bruised and thus spoiled.

Also, presuming that the honey came up to and beyond the outside edge, as he believed it would, it would sure to get bruised sooner or later merely in handling the sections.

Mr. Carr replied that the advocates of the plain section in America contended that the section would not be filled to the outer edge of the wood. They declared that the face of the honey must perforce be one-sixteenth of an inch within the wood, because the bees had no power to build it nearer to the edge without leaving themselves no passage-way at all over the surface of the comb. This was the crucial point of the new idea.

(Conclusion of Report next week.)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[3192.] The month of March, so far, has been of the old-fashioned type—rough winds, snow and hail storms, with breaks of sunshine. During the long spell of mild weather which lasted till late in February, we expected to have a very early spring, but the last month has retarded vegetation, and things at present seem as though they will be no more than rational and arrive at maturity in due season. The palm is not in flower yet, and but few primroses are blooming in the woods. Such of the more forward garden flowers as *Arabis* is in bloom, but the smaller kind is still in bud, while the crocus bloom is over, having been at its best in February instead of March this year. This source of early pollen has, therefore, not been of much service to the bees. Wall-flowers are just bursting into bloom, and the fields are beginning to provide a supply of pollen from chickweed and groundsell in sheltered positions. All this points to our assisting dame nature by giving a supply of artificial pollen, especially where a large number of hives are located in barren, bleak districts away from woods. Where stores are likely to run short, a cake of soft candy placed over the feed-hole of quilt, and then—near the place where artificial pollen is given—outside, a supply of thin, warm syrup may be given with much advantage to the growing brood-nests. Food carried into the hive from without, in my opinion, incites to breeding more rapidly than syrup given on the top of frames; besides, it is much less trouble, and if the bee-keeper wishes to give *medicated food* the bees will take it outside with a promptness that will surprise the owner, compared to the amount they will take from the bottle-feeder over the brood frames.

Your correspondent, "A Northern Bee-Man" (3,166, page 66), inquires about what he calls "jaundiced sections." I may say in grading and using the term, "pale straw-colour" does not refer to Yorkshire oat-straw, but Berkshire nursery wheat-straw colour, so that my honey has nothing of a jaundiced appearance. The honey from sainfoin is of a yellow colour, but not the sickly yellow that can be described as a jaundiced hue. Then we have an improvement in our sainfoin honey. Farmers used always to sow trefoil (hop-clover) with the sainfoin—this honey is also of a yellow colour—but now things are helpful to the beekeeper, because the farmer sows white clover or alsike clover with his sainfoin seed, and this gives us some of the finest comb honey in the world, both for colour and flavour. Your Northern correspondent had better bring some of his superior white honey down south to the Dairy Show another year and beat us southrons.

Mr. A. Sharp (3173, page 83), in his reply to my "Note" *re* Combs and Comb Saving, writes as not having any "axe to grind." I trust our editors and readers of the B.B.J. do not for one moment thiuk I write to grind *my* axe; because, if so, I hope this and anything I may be inclined to say in the future may be consigned to the "W.P.B." I can, however, assure Mr. Sharp that I should have let his reply pass without comment had I not been appealed to by correspondents as far apart as Cornwall and Scotland, to say a word in reply thereto. So far as the tone of my "Note" being unfriendly or intended to irritate, I can assure Mr. Sharp that nothing was farther from my thoughts. Yet I must agree to differ from his method of working and shall continue to carefully preserve any comb I may have. I remember just after the late Barnet Taylor brought out his comb-leveller, our friend Mr. John Walton wrote and asked me what I thought of the idea. My reply was "I want something to build up, not level down." There is probably a vast difference as regards the location or district, so far as the quality of the late-built combs, and also the amount of the propolis. Mr. Sharp mentions boiling his racks to rid them of propolis, now I have section-racks which have been in use sixteen or seventeen years, and they are only slightly stained on the underside of the slats on which the sections stand. Moreover, what sections I have in hand with combs in them, are as clean as when first put on, except at the bottom, where the bees have access to them, nor are they stained with propolis there. Readers must, therefore, use their own judgment as to what meets their requirements in any particular district. The value of combs was exemplified beyond question in my own apiary

in 1888. I was thereby enabled to sell £20 worth of comb-honey, which crop I could not have secured without them, the probability being that I should not have had a finished section to put in the market but for taking care of every one the previous autumn. My conviction, is, therefore, so well grounded in the value of combs, that I have recently bought a supply in shallow frames to enable me to increase my output to meet the growing demands of my customers.—W. WOODLEY, *Beedon, Newbury.*

WAX EXTRACTING.

[3193.] I have read with much interest the account of your correspondent "F. E. I. S." (3179), in last week's B.B.J., on "Wax Rendering," and can quite agree with him that the boiling way is very messy. I should like to give my experience last season, in the hope that we may be helped out of what seems to us as "difficulties." I managed in much the same way, but with these exceptions, that I used, instead of a copper boiler, a tin saucepan, 9 in. deep by 8½ in. diameter, and a basket of perforated zinc, 7 in. diameter by 6 in. deep (with cover like a canister), and three small feet, ½ in. long, to stand on; the weight of this is sufficient to keep it under water when the air is out of the contents. After having melted the wax it was put into a dish and remelted in the oven, then strained through a fine perforated zinc strainer into basins, and allowed to cool. I sold some of the wax to a bed manufacturer, but, on calling for a second order, he told me it was "too hard," and he should not be able to do with it again, as he could get some of a yellow colour of a shopkeeper, which was much softer to use. The colour of my wax is dark brown.

Can you or any of your readers tell me the cause of its being so hard? Is there any way of making it softer? And is the yellow beeswax sold by shop-keepers English or foreign? Can you, for the benefit of other readers as well as myself, give a classified list of bee flora in your columns? I have been a subscriber to your monthly *Record* for two years, and have now started the BEE JOURNAL, but have never seen one in print.—APIS MELLIFICA, *Bishopston, Bristol, March* 15. [*Vide* p. 104.—EDS.]

[3194.] I have read with considerable amusement the wail of your correspondent "F. E. I. S." (3179, page 93), concerning the above subject. I am afraid he is a bit of a "blister," as we say in Scotland. The following is the plan I adopt, and have no trouble at all. I carefully break up and wash in cold water all the comb for rendering. I rub well between my hands and release as much pollen as possible. Put into a close sieve, and hold below a running tap to run out the pollen which has been released in the washing. Now put the wax in a large preserving pan with convenient quantity of water. Boil carefully for a few minutes until *thoroughly cooked.* Spread a coarse cheese-cloth "dipped out of hot water" over a small clean hand-bath, and pour the molten contents of the pan into the cheese-cloth. Next tie the opposite corners and lift out with the right hand. The wax and water will instantly escape from the cloth, but in order to take all out of it give the cloth a few scientific jerks. Raise the hand aloft and drop it quicker than the cloth can naturally fall. Bring the hand to a sudden stop, and the dumpling in the cloth is arrested the next instant, jerking out everything liquid. A few jerks leave the contents of the cloth as dry as a whistle. Now set the bath or basin aside to cool, and remove the wax when solid.

To make into cakes, put the wax (broken up) into any convenient sized tinned goblet, and with a little water carefully melt all the wax and just bring to the boil; then pour into any vessel with perpendicular sides.

If desired in small cakes, take a few pound jelly-jars and put in a couple of inches of boiling water, then a small ladleful of molten wax, and allow to cool. They will be solid in the morning, and turn out easily.

I may add that I have no mess at all, and take as much pleasure in the operation as in hiving a swarm. I have a small cake left. Perhaps, Mr. Editor, you would give your opinion of it, if I sent it.—D. V., *Dunaskin by Ayr, March* 15.

[We will very gladly do so.—EDS.]

[3195.] I read in the JOURNAL week by week of the troubles and vexations caused by the failure of various plans tried by would-be wax producers to attain the object in view. Having gone through the mill myself and experienced all these woes one by one as recited by your several correspondents, I can heartily sympathise with them. Now, I want to ask, What has become of Mr. Percy Leigh—an aforetime contributor to your columns? Where is *his* sympathy for the wailers? He gave me a simple hint on this same wax-extracting business, and I have been deeply thankful to him ever since. I must not tell his secrets without his permission, but couldn't you stir him up, sir, with your editorial pen?—CHADDESLEY, *Kidderminster, March* 17.

[Mr. Leigh's attention has already been called to the matter (see below).—EDS.]

[3196.] I read with great interest and no little amusement "F. E. I. S.'s" "Wail on Wax Rendering" (No. 3,179, page 93). I well remember my first attempts, but I did not have so much trouble in keeping my bags of comb under water as "F. E. I. S." tells us he experienced, for I took the precaution to place the weights inside the bag. If "F. E. I. S." will kindly refer to pages 347, 388, and 507 of vol. 21, and No. 208, page 7,

vol. 22 of the B.B.J., he will see some letters on the above subject by "Buzzing," "W. H.," and your humble servant; but in case he has not these numbers to hand, I will briefly describe my own mode of extracting wax. I first decide the object I have in view, whether rendering wax for exhibition or for ordinary sale. If for exhibition, I take care to use only the very newest combs, cappings, scrapings of sections, &c. These I place in an upright jar, and put jar in a fairly warm oven. When all the contents are melted, remove jar from oven and allow to get cold; invert jar, and contents will easily slip out. The honey which was in the cappings will be found quite distinct from the wax, and whatever impurities were in the comb will be found at the top of the cake after jar is inverted. This waste part can be readily cut off. Re-melt the wax and strain through cheese-cloth or butter-muslin. The wax will now be found fit for showing. I adopted this plan in 1894 and 1895, showing at our county show (open class), and on each occasion was awarded first prize. In 1896, having won a "Gerster" Wax-Extractor the previous year, I determined to try it; did so. Result: wax a poor colour. It had a washed-out appearance, and only secured a third prize. Tried again in 1897; wax again a poor colour, and at our county show failed to obtain a place; but a friend of mine, Mr. Wilfrid Hardie, of Bromsgrove, who extracted his wax in the manner recorded above, was awarded a second prize in another show (open), whilst I again failed to score. I have come to the conclusion to use my "Gerster" no more when I want wax for show purposes, but to work on the same lines as in 1894 and in 1895. I find the "Gerster" answer admirably for extracting wax from very old combs, providing the water is kept to boiling point a sufficient time. I place extractor upon an oil-stove, well fill the receptacle for holding the comb, &c., and keep the water boiling for about four hours. I should advise "F. E. I. S." neither to burn nor bury his pile of comb, for if he does not relish the idea of extracting the wax I shall be pleased to do it for him and buy the wax (when rendered) at a price per pound to our mutual benefit. If he, however, prefers to try his hand at it, I shall be interested to know how he succeeds. I may mention *en passant* that my bees were very busy on a damascene plum tree in my garden yesterday.—PERCY LEIGH, District Expert, *Beemount, Stoke Prior, near Bromsgrove, March* 21.

BLACK VARNISH FOR HIVES.

[3197.] In B.J. of February 10 last (page 60), a correspondent inquires for a "cheap black varnish," suitable for painting hives with. In response to the editorial invitation to readers having experience of such to write you, I therefore say that the ordinary "Brunswick black," or common black used for ironwork, will answer the purpose very well. It dries very quick and remains glossy, while it will not smear the hands in hot weather. It is sold by most varnish and paint manufacturers at 2s. 6d. per gallon.—B. W., *Dudley, March* 18.

[The above, coming as it does from a practical wheelwright, will no doubt be reliable.—EDS.]

DEALING WITH FOUL BROOD.

A HARD CASE.

[3198.] May I be allowed to give publicity in your columns to a flagrant case of injustice from which there is at present no means of redress? I enumerate the facts, and let them speak for themselves. What I wish to say is as follows:—

1. An apiary of thirty-five stocks was advertised for sale ten miles from here. Friends wished to buy, and asked my advice.

2. I have auctioneer's communication saying stocks are healthy.

3. I went, and found unmistakable evidence of foul brood.

4. Then my neighbour (who, needless to say, must here be nameless), although he declined previous to my examination of the hives to say anything, though he knew, admitted the apiary had been affected.

5. I advised my friends not to buy.

6. After sale, I asked my neighbour where certain stocks bid for by a certain man were going? He replied, "They're mine. I know how to deal with the disease."

7. These stocks are now landed to-night about 300 yards from a new apiary I am at a lot of expense establishing.

If my experience alone, as detailed above, is not sufficient to warrant some power beyond mild words, then I would like to ask what more is wanted? But this I do know: I'm thoroughly sick of our powerless position to stop the spread of disease by such flagrant acts as these.

I have witnesses, if such were necessary, to prove the facts I give above.—A DISGUSTED BEE-KEEPER, *March* 11.

ECONOMIC BEE-KEEPING.

A COTTAGER'S VIEWS.

[3199.] It is with deepest interest that I read "Notes" from our friends Messrs. W. Woodley and Allen Sharp, but am now somewhat at a standstill, and I say to myself, "No, this won't do; the craft must be pushed forward." Then I remember that I am only a cottager with a small income, and a rather large family (if *nine* can be so called). This being so I shall be obliged to fall in with Mr. Woodley, and take care of all combs that have gone through the extractor. I do this because when they are clean they seem to me like ready cash, and on the other hand, it also

appears to me as if the foundation in my cupboard (I have now a number of sheets by me), were put into the melting-pot it would seem like putting money therein. Then if I have to consider the show-bench, well, I remember that Mr. Woodley has not done so badly after all, when we read of his many prizes won for comb honey. Bearing in mind, then, that being only a cottager who cannot provide cash for a new supply of foundation, I must venture with my second-hand comb, and foundation a year old. But if this preys upon the minds of all cottagers as it does on me while writing, we shall have to give up showing, unless we can have classes, say, for new and second-hand combs, &c.

I have been a reader of the B.B.J. for some time, and have drank in its contents with a keenness beyond expression. Indeed, I have always looked upon it and the "Guide Book" as my teachers in bee-keeping so far (and, as Paddy says, "more luck to 'em"). I quite agree with Mr. Sharp, though; he has a perfect right to maintain his own ideas, and he doesn't try to force them on other people. I also think most readers will agree that every effort is being made to encourage "*home industry*" among cottagers by introducing the frame-hive—which he must make at home—in lieu of the old skep. But when we think of the rural labourer spending his days from daylight to dark during a great portion of the year at his daily work, he has very little time left in which to make frame-hives, even if he were so gifted. And so, if he has bees, he must often content himself with skeps. He will thus not be so much troubled in buying the things needed for bee-keeping on modern plans, but he drops behind in the race, and thus enables the foreigner to reap the benefit by sending his honey to our shores.

Now, Messrs. Editors, I am not writing this in an angry spirit—not a bit of it—but am simply giving my thoughts on the advanced stage of the bee-keeping industry. And, speaking as a cottager, it needs every penny of outlay to be watched, so far as buying bee "wants," when the proceeds of two or three hives are depended on to help in feeding the bairns.—A CHESHIRE COTTAGER, *March* 18.

THE PHILADELPHIA (U.S.A.) B.K.A.

HOW TO OBTAIN COMB HONEY.

[3200.] At a meeting of this Association, to which I was invited, Mr. Flowers, of Ashbourne, Pennsylvania, was asked to explain his method of working for the production of comb honey. As it may possibly be new to many of your readers, I will endeavour to give the substance of it.

Mr. Flower invited Mr. Hahman, hon. sec. of the Philadelphia B.K.A., and myself to his house, which is about ten miles from here. I saw his apiary, and spent a very pleasant evening, and had an interesting bee talk. Mr. Flower is an intelligent man, and a thorough enthusiastic bee-master, and manages so as to get a good quantity of comb honey, although the district he lives in is not a good one for honey production.

He said he used the ten-framed Langstroth hive and the T supers, with $4\frac{1}{4}$ by $4\frac{1}{4}$ sections. This year he proposes to try the plain sections and "fence," or cleated separators.

As soon as the bees in a colony fill the hive and most of the combs have a brood in them, and the new white comb is visible between the tops of the frames, the first super, a rack of sections with foundation, is put on. When this is half or two-thirds filled, and honey is coming in fast, it is raised and another rack is placed under it, and, in due time, a third. He has never found it necessary to tier up more than three high; the first, now the top, super is by this time usually full and ready to come off.

About ten days before the usual swarming time a queen trap is put on the hive.

A half-story hive, in each of the frames of which a piece of comb foundation, about three cells deep, and the entire length of the frame, is securely fixed, is always kept in readiness. Should a swarm come off, the queen is caught in the trap, the old hive is removed from its stand, and the half-story hive is put in its place, with a queen-excluder honey-board upon it. The supers, bees, and all that were on the old hive, are now put on the excluder, and on the super an empty hive. The frames from the old hive are taken out, one at a time, and the bees on them are shaken off in front of the old stand, and as they run in the queen is released from the trap and goes in with them. The frames, after shaking, are put into the empty hive with any bees remaining on them. The swarm, finding the queen is not with them, soon returns and enters the hive. Sufficient bees will go up through the supers to care for the brood. The queen trap is put on the hive for a few days until the bees settle down to work. Seven days after remove the top story, shake the bees from all the frames in front of the entrance except one that has a good queen cell on it, cut out all the other queen cells, return the frames, and put the hive in a *new position*. The bees on this frame, and those to come from the unbatched brood, will work up to a fair colony before the winter.

It will be seen that, by this plan, the swarming and comb-building instincts of the bees have been satisfied, and the whole of the working population is kept together and not diminished or weakened, as is the case with colonies that swarm and are hived in the usual way. As fast as the comb is built the queen will fill the cells with eggs, and the honey collected by the bees goes into the sections. This plan also stops after swarms. I hope some of our bee friends will try this plan and report the result in the B.J. As nearly the whole of the honey is taken, the colony must

be fed up at the close of the season.—JOHN M. HOOKER, *Philadelphia, U.S.A., March* 8, 1898.

BEES AT THE MOORS.

HOW FOUL BROOD IS SPREAD.

[3201.] I am sorry to say we are still without a Beekeepers' Association for Cumberland. The nearest approach to one was the committee of bee-men who up to a few years ago used to co-operate in taking their hives to the moors. We then charged one shilling per hive to cover expenses, and, in addition, engaged a "watcher" for five or six weeks from about August 1 to September 14. We also each paid the man who acted as watcher one shilling and fourpence per week for looking after the hives. In this way I have seen over two hundred hives at one time located upon the beautiful fells of Ennerdale. Then there was an opposition "watcher" started, who had one year over a hundred hives in his charge on the opposite fell.

But at last trouble came in the shape of foul brood, and this, Messrs. Editors, is what I want to ventilate and expose. One of our committee of heather bee-men sent into a southern county for some driven bees, and these were brought right on to the fells among the other hives. The result of this was soon seen, for some of the stocks became diseased, and the following year more were attacked, until at last in one village, where I could have counted thirty stocks, there is not a single hive of bees to be seen. I don't know to what extent the whole of West Cumberland has suffered, but there must only be a very small number of healthy hives compared with what there was before the first outbreak. A good deal of the mischief is no doubt attributable to carelessness, some people leaving the hives open and exposed in their gardens long after the bees have died from foul brood. In these cases of course the bees of healthy stocks have carried off any little honey left in the combs, and disease along with it. One case within my personal knowledge I may mention as a sample. A man had a stock bad with the disease, and a clergyman owned five healthy colonies and bought two more, one of which I had the task of taking to the man named above as a present from the minister, coupled with the task of trying to get him to destroy his diseased hive. It was no use, however; he refused to kill the bees, but took the hive away to a distance, declaring he could cure them. In the end he brought the diseased lot back uncured, and the final result was the minister's bees were all infected with the disease, and not a stock is left alive. I fear I have trespassed too much on your space, but don't you think this sort of thing should be stopped?—J. B., *West Cumberland, March* 16.

OUR WILD BEES.

(*Continued from page* 96.)

[3202.] For collecting specimens it will be necessary to equip with a net and a killing-bottle.

The kind of net I have found most useful is made of strong mosquito net (about $\frac{1}{20}$-in. mesh). It is 18 in. in length; the circumference at the mouth is 2 ft. 6 in.; the corners at the end rounded off. The ring round the mouth is of stout cane, the ends of which fit into a brass ferrule, which will go on to the end of one's walking-stick. The ring has three joints, so that it will fold up and go into the pocket when not in use. Thus no one need know our business until we reach our collecting-ground. This mode of being able to conceal one's entomological intentions I have found to be of great service abroad, where, otherwise, inquisitive natives would so persistently follow and throng around as to disperse all signs of bee life well beyond the range of my net. The cane ring and brass ferrule may be obtained through any naturalist.

The killing-bottle I most prefer for bees is a small size of the form sold by naturalists for coleoptera. The cork has a glass tube through it for the insertion of the smaller specimens. The bottle is charged with a mixture of plaster of Paris and powdered cyanide of potassium, moistened into a paste so as to set quite hard. If the cyanide is too strong it will intensify any yellow colouring in specimens into red. During collecting, the condensation of moisture in the killing-bottle should be very carefully avoided as it causes the hairs to mat, and thus specimens are spoilt, sometimes beyond recognition, especially if there are many specimens in the bottle and they get much shaken about together. Some bees, especially the *Bombi* (humble-bees), are apt to regurgitate the nectar they have been collecting in the bottle, and this is very troublesome. To remedy this, it is a good thing to put over the cyanide a little soft blotting-paper or tissue paper, which will help to absorb all moisture.

If it is desired to set the specimens, the wings should be pulled flat out soon after the bee has been bottled. The probability is that the wings will remain in this position until we get home, when the specimens should at once be taken out of the bottle and set within twenty-four hours, or sooner if they are very small (see page 77). With a little ingenuity it is easy to make one's own setting-boards to any style desired out of a few sheets of cabinet-cork, also obtainable from any dealer in entomological accessories. The wings should be kept flat on the boards and braced down with little strips of paper.

A sunny garden, well sheltered from cold winds, containing common spring flowers such as white arabis, primulas, crocuses, &c., now in bloom, is likely to prove one of the best hunting grounds for the bee-collector at this time of year. Suppose we sally forth with

net and bottle about midday on one of those lovely spring days when every blade of grass seems to be rejoicing to the full, and when, amid the murmur of bird voices borne to our ears on the fresh, sweet-scented air, our only feeling of regret is for the millions in the great city who are strangers to the pure restful happiness of a country life. In some sunny corner of the garden where such flowers as I have mentioned are blooming in profusion we shall find plenty to engage our interest. Possibly the gardener in making preparations for a plentiful crop of vegetables, has not of late kept such a vigilant eye over this particular spot in his charge as might have been desired from some points of view, resulting in the appearance here and there of stray dandelions, lesser celandines, and dead nettles. This is all the better, at least for the honey-bees, as is well in evidence by the "cheerful hum" that all around greets us. But it is not the honey-bees that we have come to seek. Darting by us with extraordinary rapidity, skimming the whole carpet of bloom in the twinkling of an eye, and then disappearing from view at the other end of the bed, only to return the next instant and poise himself in front of a primula floret at our very feet—his body suspended motionless in the air while he refreshes himself with a minute sip of nectar through his long extended tongue, is a robust bee, clad with long and dense brown hair. His long tongue tells us at once that he is an apid. If we succeed in netting him, we shall find that he has the "clypens," sides of the face, and the front of the scape yellow, his furry brown coat shades off into black at the apex of the abdomen; but perhaps the most remarkable feature about him, beyond his very long tongue, lies in the intermediate pair of legs, the metarsus and tarsi of which are clothed with pencils of long black hair. The presence of three submarginal cells in his anterior wings, his hairy abdomen, and the shape of his marginal cell (page 87), place him in the genus *Podalirius*. In fact, he is the male of *P. pilipes*, sometimes also called *Anthophora acervorum*.

Perhaps, if we watch him long enough, we may discover the reason why he keeps passing and repassing us at so high a speed, scanning every fragment of bloom as if he had not a moment to lose. See, he pauses in front of a flower from which an entirely black bee of about about his own size and shape is leisurely taking her meal. Not appearing to notice his presence, she moves to another flower; he darts after her, and, by means of his rapidly-vibrating wings, keeps his body absolutely still as he watches her every movement, perhaps shifting his ground at intervals to get a better view; thus he follows her round the bed.

Presently another brown gentleman makes his appearance, and this sets up an amusing rivalry between them as to who shall have the prize. They chase one another away with great vehemence, but one or the other soon returns and continues his attentions to the unconcerned black lady with greater diligence than ever, until his excitement becomes so intense, possibly with the likelihood of more rivals gathering round, that he seizes the earliest opportunity of making a pounce on her. This liberty, however, she will not tolerate, and throwing him back for his impudence, she forthwith leaves his beat (?) to seek refreshment elsewhere, and grace with her presence the domain of some less audacious admirer, where she will not run the risk of being again so rudely molested. When the rejected suitor recovers himself she has vanished, and the best he can do is to continue his tours up and down and round the bed; if with diligent searching he is fortunate enough to come across another black lady he will, perhaps, endeavour to woo her with greater caution.

The female of *P. pilipes* much resembles at first sight a small humble-bee; the face is black, and the body is entirely clothed with long, black hair.

Peach and almond blossoms, dandelions, box and laurustinus blossoms, crocuses, sallows (popularly known as "palm"), are a few of many things likely to attract bees just now.

Sheltered shrubs and sunny grass slopes will be worth searching for the small male *Andrenæ*. The table on page 95 will assist the collector in making out the genus of his captures.—F. W. L. Sladen, *Dover, March* 18.

(To be continued.)

IRISH BEE-KEEPERS' ASSOCIATION.

The Committee met on the 17th inst. Present—Mr. W. J. Delap (in the chair), Dr. Traill, Mr. Read, Mr. Watson, and Mr. Chenevix (Hon. Sec., 15, Morehampton-road, Dublin). A vote of thanks was passed unanimously to the Royal Dublin Society for their recent additional grant of £25.

Death of the Rev. F. T. Scott.

The sad news has just reached us of the death of the above-named reverend gentleman, after a few hours' illness, on the 15th inst., at his residence, "The Cedars," Hythe, Kent. Mr. Scott—who had reached the patriarchal age of eighty-six—will be best known to those of us who belong to the older school of bee-keepers; but to all, old or young, who have had the pleasure of meeting him at Jermyn-street, his never-ending enthusiasm as a bee-keeper, and his kindly and genial manner, will remain as a pleasant memory not readily forgotten.

We hope to give some further particulars of our venerable friend's long connection with bee-keeping in next issue of this Journal. Meantime, we may be allowed to extend our respectful and sincere sympathy, along with that of readers generally, to his widow and all who mourn his loss.

Queries and Replies.

[1991.] *Bees in Hollow Trunk of an old Apple Tree.*—A colony of bees have taken possession of an old apple tree here, and I am anxious to get them into a frame-hive before the apple-crop comes on again. They have been located in the tree for three years at least, and the trunk seems to be full of bees. The entrance (about 2 ft. from the ground) is a hole 3 in. long and 2 in. wide. There is also a small hole close to the ground from which the bees immediately come forth if a stick is thrust in. A decayed branch between 5 ft. and 6 ft. from ground also has a good-sized hole in it, and if their usual entrance is stopped the bees will come out at this hole. Would it be possible to drive the bees up into a skep through the last-named hole, and, if so, how should I proceed, and when is the best time to do this? I enclose a rough sketch of tree showing entrances.—R. C. V., *Puckington, March* 17.

Reply.—It is just possible that by stopping up the two lower entrances, and drumming on the hollow tree-trunk with a paddle-shaped piece of board, that the bees might be "persuaded" to ascend into a skep fixed at the point marked on sketch. Much, however, will depend on the amount of vibration that be brought to bear on the bees by rapping on the tree stem. Beyond this there are no means of getting the bees out without destroying the tree. We are curious to know how a crop of apples can be grown on a tree the trunk of which is hollow from the ground upwards to nearly 6 ft. of its length and "full of bees?" Judging from sketch sent, it seems impossible for the tree to have much life left in it, and if this is so we should leave the bees where they are until the tree may be cut down and split open to get at the bees and combs.

[1992.] *Renewing Combs. Spring Stimulation.*—1. I have purchased two stocks of bees in frame-hives, and an examination reveals the fact that they are in a dirty condition, the frames of comb being very old and black. I therefore want to give them new frames fitted with foundation, and destroy the old ones. But as I wish to be on the right side, will you advise me *when* and *how* to set about it? 2. My other stocks are getting short of food, having only enough—at present rate of consumption—to last about a fortnight. Will it be too soon now to commence stimulative feeding, or had I better give them candy, as directed in your "Guide Book"?—E. C., *Erdington, March* 12.

Reply.—1. Pre-supposing that the present combs—though old and black—are built straight, it is quite possible with care to get most of them renewed by supering time comes round in June. That is, if the stocks are now healthy, fairly strong in bees, and have prolific queens. Begin by examining to see how many frames are well covered with bees and how many have brood in them. If there are two seams of bees beyond the *outsides* of combs with brood in them, remove an outer comb from one side and part the brood combs so as to get space to insert a frame of foundation right in centre of the brood-nest. This done, set a bottle of warm syrup directly over the frame of foundation, and cover all up as warmly as possible. Renew the syrup as needed, but take every possible precaution to keep up the warmth of the hive, especially if weather is cool. Ten days later, if weather is mild and bees are flying freely, examine the centre frame, and if it is well built-out and contains plenty of brood, with an increase in the bees, repeat the operation as before, again removing an old comb from the *outside*, and inserting a new frame in centre. If the latter end of April is warm and settled, and the second new comb is in good condition with brood as before, a third frame may be given after an equal lapse of time, and as the hive gets fuller of bees at still shorter intervals, bearing always in mind to keep the feeder going and only operating in warm weather. The point is to keep the queen from occupying more of the old combs with brood than is desirable, because no brood should be sacrificed, even to secure new combs. 2. The end of March is a suitable time to give syrup food to all hives needing help or stimulating; nor does the "Guide Book" recommend *candy* in lieu of syrup when that time of year is reached.

[1993.] *Keeping Bees near Public Footpath.*—I am thinking of commencing bee-keeping this spring. I have also read your valuable paper for some months, and finding advice to beginners freely given, I make bold to ask:—How near to a public footpath is it safe to fix a hive? The garden in front of my house is small, and in it I am desirous of placing my hive (one, to begin with). The garden is but a few yards square, and a public footpath runs close past, separated from my garden by a stone wall about 3 ft. high. The footpath would thus only be about 3 yds. from the hive. There being no bee-keepers for several miles round here, your advice would be much esteemed.—John A. Holt.

Reply.—The point is one that depends so much upon the bee-keeper and his method of managing the bees, that it may be said to turn mainly on the question of aptness and tact. We know many cases where one or two hives are kept within 3 yds. of a public footpath, and no harm of any kind follows. But it would be folly to suppose that any one could work bees so close as that to passers-by without more than probable mischief. The first thing needed would be a screen of some sort—fixed 6 ft. in front of the hive—over which the bees are compelled to fly in their outward journeys. This would carry them above the

heads of those passing along the footpath, this will lessen the risk considerably. Then the owner should learn not to meddle with the hive at unseasonable times, or cause an upset at any time. Bear in mind that if a hive is fixed up 9 ft. from a path, with only a 3-ft. wall between, passers-by will be directly in the line of flight, and run risks accordingly. But a screen 6 ft. high will carry the bees over their heads, and they escape risk by not interfering with the bees journeying at all. You might try one hive, and let the bees work quietly and with no irritating interference. Then see how it answers, and keep more hives if you succeed with one.

[1994.] *Using Combed Hive in which Bees have Died.*—On examining my only hive to-day, I found the bees all dead. I am sending on some of the comb, hoping that you will kindly tell me, through the BEE JOURNAL, if there is any disease in it. If there is I will destroy the hive, but if not I would like to try again with another lot of bees. I may say that last year at this time the bees were very strong, and I think they must have sent off several swarms unobserved during the last summer, and this has, perhaps, left them too weak to stand the winter. I fed them last autumn with sugar syrup, and afterwards gave plenty of candy, but none of the latter has been taken. I am sending you a sample of it to ask is it made properly? I am also sending a few of the dead bees, with what I take to be the queen, too. Perhaps you could tell me the cause of death, and if I am right as to the queen. Thanking you for past help.—C. G., *Cardiff, March* 14.

REPLY.—1. There is no disease in the combs sent, but they are so mouldy and old—besides being dirty and infested with wax-moth—as to be only fit for burning out of sight. You could never hope to have a thriving colony housed on such combs. 2. Yes, one of the dead bees received is a queen, but we cannot give the cause of death beyond the state of the hive and combs. If a new start is decided on, we should begin with a set of new frames, and have them fitted with full sheets of comb-foundation, so as to have only just so much of drone-comb as can be built in space allowed for stretching.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

BISMARCK (Cornwall).—*Suspected Combs.*—The comb received bears a suspicious look, but we should not advise destruction of the stock by any means. Continue feeding with medicated food and keep a sharp eye on the hatching brood at end of April. By that time there will be ample opportunity for judging if the stock has got the upper hand of the "suspicious look" you say it had last autumn.

G. B. (York).—*Wholesale Prices for Hives.*—We cannot advise you as to the cheapest wholesale market. This is simply a question for those you ask to quote wholesale rates. But seeing that you will have to pay carriage in any case, 15 per cent. off catalogue price seems to us a very fair discount in view of the present day competition.

A YOUNG BEGINNER.—1. If description of the four frame-hives constituting your apiary as "all strong and very busy when weather is fine, carrying in pollen plentifully on March 13," they may safely be regarded as strong lots, so make your mind easy on that score. 2. You must defer any thoughts of supering till honey is to be had in the fields and fruit gardens. This will not be for a few weeks yet; meantime, if food is short, warm syrup food should be given at once. 3. The bees clean out all cells before the queen deposits eggs in them. 4. The food given to brood in the larval stage consists of honey mixed with pollen. "Young Beginner" should not forget (as he has this time) to observe the rule applicable to all, and to send his name and address when writing, not for publication, but as a guarantee of good faith.

R. J. S. (County Tipperary).—*Transferring to Clean Hives.*—If a warm day be chosen, on which the bees are flying freely, the frames of combs and bees may be transferred with no risk whatever, as follows:—Set the clean hive on the old stand, and lift out the frames singly (though a practised hand would lift two or more at a time), placing them in the new hive in exactly the same order as before. It need not take more than ten minutes before all is covered warmly down again, and neither the brood nor bees will be harmed, unless the operator is awkward at the work.

A. M. B. (Colwyn Bay).—*Moving Bees to Pasturage.*—1. There is no need for going to trouble in moving hives to pasture a quarter of a mile away. 2. No feeding is needed while stores are plentiful. 3. Give surplus-room to strong stocks as soon as honey is to be had outside. 4. For bee-stings what answers with one often fails with another. Try "Apifuge." 5. We cannot tell "how to clean a hive that does not take to pieces" unless we know more of its form.

*** Referring to our reply to "Tinker" (Hastings), on p. 100, we are informed by the leading manufacturer of tin goods for bee-keepers' use, that all "comb-baskets" of the wax-extractors made by himself are now made of perforated tin—not zinc.

Editorial, Notices, &c.

THE LATE REV. F. T. SCOTT.

The Rev. Fredk. T. Scott, whose sudden demise we briefly referred to last week, was one of the oldest and most highly esteemed veterans of the craft in the kingdom. Born at Folkestone on March 6, 1812, he began bee-keeping thirty years ago, and from first to last of these years his enthusiasm never abated. He entered the ministry in 1835, being ordained in that year by the Bishop of Lincoln to the curacy of St. Ive's, Hunts, where he resided for the only year of his life spent outside his native county of Kent. In 1843 he became rector of Eastbridge; and in 1844 we find him perpetual curate of Hythe, Kent.

THE LATE REV. F. T. SCOTT.

In 1849 Mr. Scott began to take an interest in bees, his attention having been drawn to them by his then curate, the Rev. Matthew Woodward, who had been greatly interested in a swarm which he had seen taken in the garden of his lodging. Mr. Scott was at once seized with the same desire that his curate had expressed, to know something about bees, and the following year, 1850, found him the possessor of eight swarms, one being placed in a set of Nutt's collateral boxes, another in Mr. Payne's flat-topped hive.

Like most bee-keepers, Mr. Scott became from this time forth an enthusiast in the science, and spent much of his leisure time in obtaining information on the subject. He read bee-books, visited all the apiaries in the neighbourhood, and some at a considerable distance. He was especially interested in the apiary of Mr. Golding, Hunton, where he saw Huber's leaf-hive in full work, as well as the Grecian hive, which Mr. Golding had done so much in introducing to public notice, and which was being worked with great success by a neighbouring clergyman, who kindly instructed him in the right way of using it. Mr. Scott met with a considerable amount of success as a bee-keeper, and had the satisfaction of astonishing and delighting his friends by the sight of some excellent supers of comb-honey.

In the year 1853 Mr. Scott was removed from the incumbency of St. Leonards, Hythe, to that of Sibertswold (or Shepherdswell), near Dover, to which vicarage his bees were in due time removed. During a lengthened residence of twenty-one years in this place, a great advance was made in his knowledge of bees and bee-keeping. Here it was that, having learned of the excellent qualities of Ligurian bees, Mr. Scott was one of the first of English bee-keepers to import them into this country. Through the assistance of Mr. Neighbour he obtained from M. H. C. Hermann, of Canton Grisons, Switzerland, in the month of October, 1859, two cassettes, each containing a Ligurian queen. One of these died on the journey, the other was successfully placed at the head of a strong English colony, which sent out a good swarm on July 2, 1860. Mr. Scott was greatly delighted on getting a swarm from his new race of bees, of which Mr. T. W. Woodbury, of Exeter, afterwards remarked in a letter, "I should think that this was the *first natural swarm* of Ligurians that had been seen in England." But to the great regret of Mr. Scott they never swarmed again, for the gloomy summer of 1860 proved fatal to the race in his apiary; whilst Mr. Woodbury's, having been kept from swarming, survived and flourished.

About this time a remarkable advance was made in bee-keeping by the introduction of frame-hives, and in this matter also Mr. Scott had the great satisfaction of lending a helping hand. The famous "Practical Treatise on the Hive and Honey-bee," by L. L. Langstroth,

was published at New York in 1860, and came into Mr. Scott's hands in 1862. In the perusal of this most complete and exhaustive work he became deeply interested, and at once set himself the task of constructing a hive, something upon Mr. Langstroth's lines, but, as Mr. Scott thought, more suited in size to our variable climate and short, uncertain summer, and he hoped also with some improvement of his own. This latter consisted in the top-bars of frames projecting about an inch beyond the front and back of the box, so that the frames might be lifted out without having to lay hold of them within the hive. To this hive, when completed, Mr. Scott gave the name of "The Sibertswold Hive," and he allowed Mr. W. J. Pettitt, of Dover, to make and sell them as he pleased, many hundreds being sent into different parts of the kingdom.

Besides efforts in the cause of an improved system of bee-keeping, Mr. Scott delivered numerous lectures on bees.

Having laboured zealously in the cause of bee-keeping for a period of twenty-one years, he changed the preferment of Sibertswold for that of Hartlip, near Sittingbourne, his bees, of course, accompanying him in his change of residence.

Mr. Scott's connection with the British Bee-keepers' Association dates from its first establishment, in 1874, and it had on all occasions his warmest support. In its days of infancy, when it was glad to receive the patronage even of a country vicar, Mr. Scott figured in its annual report as a vice-president. He constantly attended and exhibited at its annual exhibitions. For some few years after this he acted as one of the judges at the annual exhibition at the Horticultural Gardens, and for many years was a member of the Council. Thus he may be said to have been intimately connected with the B.B.K.A. from its very formation.

Mr. Scott was one of the first promoters of a Bee-Keepers' Association for the county of Kent, and continued his interest and membership of his county association up to the time of his death. So uniformly pleasant and genial was our late friend in all his intercourse with bee-keepers that a very general and keen regret will be felt at his removal from our midst; while his disinterested labours in the cause of bee-keeping have earned for him none but grateful and loving remembrances from all bee-keepers.

BRITISH BEE-KEEPERS' ASSOCIATION.

QUARTERLY CONVERSAZIONE.

(*Continued from page* 113.)

Mr. Weston said that so far as he had been able to ascertain from what appeared in the BEE JOURNAL, Americans spoke of these sections as *reputed* pounds. But in the City of London he could not sell sections which were only "reputed" pounds. They might look very pretty got up for exhibition, but showing and selling were two different matters. If 16 oz. of honey could be put into the new section, then they would undoubtedly be an improvement, but that was a question of experience, and he would not order many of them for his own use until he had settled the question for himself.

Mr. Till remarked that the number of sections might, perhaps, be increased to make up for the deficiency in weight.

Mr. Carr said readers of the B.B.J. would no doubt remember how strongly they recommended in the issue of January 27 last to give them a full and fair trial before rushing at the new section.

Mr. W. B. Webster could afford no information regarding the no bee way section, of which he had no practical experience. With regard to separators, however, he would not have a wooden one in his apiary. They were more expensive than metal ones, and warped much quicker. With proper treatment metal separators would not warp, especially if they fitted the rack accurately. If taken out carefully and laid one on the other, they would keep right from season to season *ad infinitum*.

Mr. Meadows also advocated metal separators. The chief objection to them in a general way was that they were often inaccurately made, and of too thin metal. He could not express any opinion on the "no bee way" section, which remained to be tried.

Mr. Buller suggested that there would be great difficulty in cleaning off the propolis from wooden separators.

Mr. Brice remarked that they might be boiled with potass, or have the propolis removed with spirits of wine.

Mr. Brice then showed another device of Mr. Garner's, viz., a very simple way of wiring frames. He said those present could see that there were saw-cuts in the sides of the frame, going half through the wood, and two small tacks were driven in each side-bar, not quite "home," on one side of frame, on which the wiring was begun and finished by a turn or two of the wire round the nail; the tacks, being afterwards driven home, held it at both ends. Mr. Brice then illustrated the principle of Mr. Garner's method, by wiring a frame completely in a few seconds.

The Chairman considered the method very simple, neat, and ingenious, an opinion evidently shared by all present after examining the frame which was handed round for inspection.

Mr. Lee observed that the side-bars of the standard frame were a quarter of an inch thick, while in Mr. Garner's frame they were three-eighths. He was, however, inclined to think the standard side-bar would be quite strong enough to stand the saw-cut for "wiring" on the plan shown.

Mr. Brice next showed a simple wooden covering for sections when sending them by post, also sent by Mr. Garner. The honey

being recessed within the section allowed the projecting face of the wooden lid to slip down slightly below the margin of the section, and so keep its position when packed.

Mr. Lee thought there was a danger in using the wooden cover exhibited, because, unfortunately, the bees did not always fill their combs with mathematical accuracy.

Mr. Andrews feared that the cover would be most likely to bruise the sealed surface of the comb.

The Chairman liked the device, which, with a wider section, would be admirable for sending honey by post.

Mr. Lee next exhibited a very ingenious contrivance for enabling foundation to be fixed in frames rapidly, and without any liability to stretch or the necessity of pressing it in. It consisted of an automatic arrangement for opening the saw-cut in top-bar of a frame, so that the foundation could be slipped in readily by simply pushing a wedge at each end. The frame was held between these wedges and kept in position by studs, and upon pressure of the wedges the saw-cut was forced open.

Mr. Lee also exhibited another apparatus for carrying out the same object, but instead of wedges the saw-cut was opened by means of an iron and brass thumb-screw.

Mr. Lee, jun., showed a "W. B. C." hive fitted with a rising and falling floor-board. The floor was hinged at the back, and, by simply turning a thumbscrew underneath, it could be lowered or raised at pleasure. Such an arrangement would be very helpful to bee-keepers in hot weather, and also for introducing a swarm into the hive. The front of floor could be lowered to a depth of $1\frac{3}{4}$ in., and regulated to any height. It was impossible to crush bees in manipulating the floor, except at one very small space, and that must be kept under observation when operating. He had also contrived an easy means of causing a current of air between the outer case and the occupied parts of the hive by the use of a slight frame of perforated zinc, which bridged over the full width of the entrance way, kept the bees from occupying the space in front of the body-box, or from getting into the outer case, yet allowed full ventilation all round.

In reply to Mr. Weston, Mr. Lee, jun., said that the bees could not get into the space between body-box and outer case when bridged over as shown, and the "bridge" could not get out of position. He would do away with the bridge arrangement in the winter and substitute for it a plain wooden cover.

In answer to an interrogator as to the arrangement shown being likely to prevent swarming, Mr. Carr said that no sort of hive could prevent swarming, although the provision for shade and ventilation shown would tend greatly in that direction. He considered the lowering floor-board a most acceptable change and improvement. It was always a great help to a bee-keeper when he could give plenty of air to a crowded colony in hot weather as in this case, without disturbing either surplus arrangements or hives, and a lady, it seemed, could easily do all this by simply putting her hand underneath and turning the screw to the desired height.

The Chairman and Mr. Till commended the invention, the latter pointing out its superiority to the old system of wedging up the hive, and thus throwing the whole of the sections and the frame out of the perpendicular.

Mr. Lee, jun., next exhibited another hive specially adapted for sending bees to the moors —in other words it was a heather hive. When sending to the moors, all that need be done was to remove the porch by taking out the thumb screws, then raise the front of alighting boards, which was perforated to a certain extent, and screw in up to the hive front, when the bees were securely fastened in, and had plenty of ventilation. The frames were fixed at the top by two pieces of wood placed crosswise, and fastened by screws. Heather bee-keepers in the north thought that method better than fixing frames along the bottom of floor-board.

The Chairman, Mr. Till, Mr. Carr, and Mr. Meadows commented on the exhibit, the general opinion being that it was a marvel of simplicity, and would be a useful article to those bee-keepers who could avail themselves of the opportunity of collecting heather honey from the moors, and to whom a ready means of preparing for a safe journey was so important.

Mr. J. S. Greenhill next showed a very neat little model of a new non-swarming hive, worked somewhat on the Simmins plan, but with quite new features of its own. The main idea was a sliding chamber below the brood-nest, which could be withdrawn—when the bees had got well at work comb-building therein—and set above as a surplus-chamber, being then replaced by another empty one, thus giving room and air below the brood-nest as long as hot or swarming weather continued. As soon as swarming was over the bees entered direct into the brood-chamber without passing through the empty one as before.

The Chairman suggested that it might bother the bees to have their entrance changed; but Mr. Greenhill replied that if that were done in the evening it would make no difference at all to them.

Mr. Greenhill also showed a specimen of a glazed case for sections, which could be supplied at about 10d. a dozen, unglazed ones at a cheaper price. These were handed round, and met with general approval as filling a much-needed want.

After a desultory conversation on various topics of interest to bee-keepers, a very pleasant meeting concluded with a vote of thanks to the Chairman and to the gentlemen (Messrs. Lee, Meadows, Green, Brice, and Garner) who had brought and explained the many interesting exhibits laid before them.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

APICULTURAL NOTES.

SUCCESSFUL WINTERING, RENEWING COMBS, AND SPREADING BROOD.

[3203.] The weather here continues dry, February having this year failed to keep up its reputation of "fill dyke." During the first few days of the month we had a slight downfall of rain and sleet, but the rest of the month was dry, with the exception of about two hours' rain. The last week of the month was bitterly cold with sharp frosts at night. Hive entrances left wide open all winter were then narrowed. My bees were frequently on the wing during the middle of the month, but only in small numbers, it not being warm enough to rouse the hives into general activity. Then March arrived, with strong, cold winds, rain, and sleet, lasting nearly a week, after which dry weather returned, and the only rain since was for about three hours on the 19th; but the soil here being gravelly and of a very hot nature, it quickly disappeared. It has been a splendid time. Farmers appear to have made good use of the capital dry time for their work, and all seems to be in a forward state, though everybody is now wishing for rain. Ponds, &c., which twelve months ago overflowed and covered hundreds of acres of land, are now less than half full, so that unless we have some heavy rains shortly, the outlook will be serious. After a sharp frost on the 20th, the next day was quite warm and spring-like, with bees busily carrying in pollen. What little wind there was at 12 o'clock on the 21st was due north. Some people, you know, say that "where the wind is on the 21st it will continue to be the next three months;" but the saying won't hold good, for March 21 last year was a real hot day, the wind south-east, and bees busy as in midsummer. We were delighted with the prospects of three months of such weather. But the wind changed next day, and then followed about twelve weeks of as adverse bee weather as it is possible to imagine. Any confidence I might have had in the indicative character of March 21 is therefore gone for ever.

Most of my hives have been left undisturbed for nearly six months, not even the roofs being raised. But the whole of my colonies in both home and out apiaries have now been examined, only superficially, through, the quilt being just turned back to enable me to ascertain roughly the condition of stores; in a few cases the outside combs, being empty, were removed and replaced with frames of honey taken from stocks found to have enough and to spare. Nothing beyond that has been done. I had no anxiety about my bees during the winter; no bother of candy-making; no sugar bill to pay; and, what is better still, I have found no dead colonies. One or two lots dwindled down to almost nothing, owing to queens being missing, from some cause or other, after the hives were packed in the autumn. The rest have come through well, and are busy carrying in pollen whenever a warm day tempts the bees out. This is a good sign of what is going on within. Not a single comb of brood have I yet disturbed, and no general examination or spring cleaning will be done by me until April is well advanced and warm weather prevails. Past experience has taught me the folly of early manipulation.

I am glad to find that the practice of renewing combs in the brood-chamber is becoming more general. Several bee-keepers have asked my opinion on the best time to do it. My reply is in spring, as soon as it is safe to overhaul the hives, at which time there will be less bees and more empty combs than at any other period of the year, and any combs, old, pollen bound, or faulty in any way, yet containing neither brood nor honey, can be removed, and the bees closed up to just as many combs as they can cover; then, as they become crowded, frames of foundation may be added. Stocks thus treated will generally build up more rapidly than if the old combs had been left in. This brings to my mind another question, viz., "spreading brood." Experienced bee-keepers know what to do in this matter, and now to do it; but those who want advice thereon cannot, in my opinion, do better than follow the method advocated by Mr. Brice in last week's JOURNAL, of giving extra room at the *side* rather than in the centre of brood nest. That the *judicious* spreading of the brood will produce good results no one of experience will deny. But probably no operation in connection with modern apiculture requires more care and judgment, and it is, I think, altogether too risky to be undertaken by any but advanced bee-keepers. A few years ago I had an apiary of twenty colonies, which in the second week in April would not average more than four frames per hive. By June 1st I had them crowded on twelve frames, and ready for supers, in which they did good work. But I have never had the courage to publish the method I adopted to bring about those results, for fear some one

should be tempted to try it under less favourable conditions, and thus bring about failure, and pour upon me the blame.—ALLEN SHARP, *Brampton, Hunts.*

CLEATED SEPARATORS.

AS REPORTED ON AT THE B.B.K.A. CONVERSAZIONE.

[3204.] In your report of my remarks explaining the slight modification I had made in the "Root" Cleated Separator, a printer's error occurs. I am made to say that in the "Root Separator" the slats, being spaced only $\frac{1}{8}$ in. apart, did not allow passage-ways for the bees between the slats. This is wrong, as there is a space a fraction wider than in excluder zinc in Messrs. Root's separator, and I adopted the same space in those I exhibited. The modification I have carried out is in the *thickness* of cleats, and in the outer slats being kept $\frac{1}{4}$ in. from the ends of cleats, which ends are level with the top of sections. The thickness of the cleats should not exceed $\frac{5}{32}$ in. or less than $\frac{1}{32}$ in. thick. I prefer the thinner for the following reason:—Take a dozen well-filled sections and it will be found that the face of the comb is built in many of them $\frac{3}{16}$ in. from the outer edge of section. It is therefore obvious that if the cleats exceed $\frac{2}{16}$ in. the face of the comb will be built so near the edge of section that both for handling, packing, or glazing it will not be possible without bruising the capping of comb; but with the $\frac{2}{16}$ in. we have the face of the comb $\frac{1}{16}$ in. from the edge of section clear for glazing, &c. If the cleat is less than a bee-space thickness it necessitates the outer slats being kept down from the ends of cleats to give the requisite passage-ways, both from the brood-chamber into the rack, and from one rack to another above it. I find a $\frac{1}{4}$ in. gives just the desired way.

With these two exceptions my cleated separators are similar to the "Root," the principle of which I may be allowed to say I consider to be the most suitable for the no-bee-way section.—JAMES LEE, 5, *Holborn-place, High Holborn, W.C.*

THE NEW STYLE SECTION.

[3205.] The description of the "Root" Fence Separator given by Mr. Lee, at the Conversazione of the B.B.K.A. on the 17th inst., as reported in last B.B.J., p. 112, is not quite the same as that given of it by the Messrs. Root in *Gleanings*. These gentlemen state in the number of that periodical for January 1, page 23, that "six cleats, $\frac{2}{32}$ of an inch thick, and $\frac{1}{2}$ inch wide, are glued on to 4 inch slats," &c. Two-twelfths of an inch thick for the cleat allows $\frac{1}{32}$ of an inch space between cappings of comb and outer edge of section, and if $\frac{3}{32}$, or $\frac{1}{4}$, of an inch is to be considered the usual bee-space, "the face of the comb will not be brought out level with the edge of the section," as Mr. Lee states, but within $\frac{1}{32}$ of an inch of the edge, allowing sufficient room for glazing, and, in packing, $\frac{1}{8}$ of an inch between comb cappings.

Again, the space allowed between the slats of fence on which the cleats are glued is $\frac{1}{8}$ of an inch wide (see *Gleanings* of December 1, page 846). Through this space, it being about the width of American queen-excluder zinc, bees can pass, and it has been found that if this space is left wider the face of the comb in section becomes "ridgy," that is, uneven, being raised opposite a wider space.

Lastly, the Americans do not require the full 1-lb. weight section, and sometimes a little over that obtains here by the use of the 2-inch wide section; they are content with the $1\frac{7}{8}$, with plain, or $1\frac{1}{2}$ with cleated separators, which latter is the width of the American plain section; but for the British market the Messrs. Root are sending over sections $1\frac{5}{8}$ths of an inch wide, which, with the cleated separator, give a thickness of comb in section very nearly equal to that contained by the 2-inch wide, with plain divider, or a full 1-lb. of honey to each section.—W. BOXWELL, *Patrickswell, co. Limerick, March 26.*

MR. G. WELLS' REPORT FOR 1897.

[3206.] I had made up my mind to let my bee doings for 1897 pass without notice, but having received requests from B.J. readers asking how I had got on with the bees, I ask if a little space can be spared in B.J. for th same.

My intention was to have worked seven hives last season, but a friend so wished me to let him have a stock that I agreed, and this left me with but six hives to go on with, each having two queens. The bees, however, were in grand condition by the time honey began to come in. Two of the hives swarmed, after which I made six nuclei from the parent colonies, and from the other four hives I made ten more, making sixteen nuclei in all. Of the sixteen young queens fourteen were successfully mated, and the bees built up into fair stocks of from six to eight frames. At end of August these nucleus colonies were united to the five old stocks which had been gathering honey during the season. Of course the old queens were removed before uniting. Two queens which had only worked one full season were saved, and the other four young queens were fed up and formed stocks of their own. This made me have eight double-queened hives to go into winter quarters with, and all were in splendid condition. I shall probably only work seven hives through the present season, but I make it a rule to save at least two spare queens in nuclei each winter, in case of accident or loss to a queen in any of the fully equipped hives, they mostly come handy either for myself or a friend.

I examined my hives on Monday last for the first time since they were packed for

wintering at end of September. All, save one, are in good condition. In this particular case something had evidently happened to one of the queens, as one compartment was entirely devoid of bees, though the other side was quite crowded, showing plainly that when the bees found themselves queenless, they soon joined those on the other side of the dummy, and united to the bees whose queen was safe, as the combs were very sweet and clean, besides containing about half the food they had in them when packed for winter.

My financial position with the bees for 1897 is as follows :—

	£	s.	d.
127 1-lb. sections comb honey, at 9d.	4	15	3
811 lb. extracted honey, at 8d. ...	27	0	8
34 lb. bees-wax, at 1s. 6d.	2	11	0
	£34	6	11
Deduct total expenditure during the year	2	6	8
Balance for labour ...	£32	0	3

The season for honey in this district was about a fair average.

I am very pleased to see that some of your correspondents have done even better with the double-queen system than I have myself. In fact, this is a thing I have expected to hear more of, as mine is not one of the best districts for honey. I should like to mention, in conclusion, that I have some seeds of the Chapman honey plant, and also of melilotus, which I will send free on receipt of a stamped and addressed envelope. This month is about the best for planting, and if dealt with something like cabbages, the results will be very good for the bees. They will also grow on any waste or uncultivated land.

There is one more thing I should like to mention, that is, respecting my address.

I find there are now two persons living in Aylesford by the name of George Wells, and, in consequence, my letters get into the wrong hands. Those who write me should address—"G. Wells, *Eccles, Aylesford, near Maidstone, Kent.*"

AN EARLY SWARM.

[3207.] While looking round Mr. Norman's apiary at Loders, near Bridport, on March 20, some one came with the rather startling news that a swarm of bees were settling on the railway embankment close at hand. Thinking it was perhaps nothing more than a few bees that had found a good patch of pollen pasture, we at first took no notice, but on a second visitor arriving with the same news, we went to investigate matters. We found a small swarm consisting of about a quart of bees on the sunny side of the railway embankment, clustered on the dried stems of a clump of tansy. A straw skep was put over the cluster, and they soon took possession, evidently pleased to find a shelter from the cold wind. Many of the bees were carrying pollen, and taking that as a sign that the queen was there, we decided to unite them to a queenless stock. The bees of the stock were shaken out on a cloth, floured, and the swarm shaken out of the skep with them. They ran in together peaceably and we soon discovered the queen, rather a small one, but very lively. The hiving was apparently successful, as only two workers were found dead on the alighting board the next morning. This swarm was probably a hunger swarm from some cottager's skeps close at hand, as Mr. Norman's thirty-three stocks were well supplied with stores and most of them "boiling over" with bees, two stocks (last year's swarms) were queenless, one of which is now provided for.—F. Crocker, *Derby, March 23.*

BEES IN NORTHANTS.

[3208.] My bees (twenty hives) did badly last year, after being most promising in the spring. They were at "boiling-over" pitch when the cold spell (lasting three weeks in May) put them back quite a month in making up the loss in bees, which went out never to return. I had ten swarms altogether, and only about 240 lb. of honey. My method of selling is to make it known that any one can have honey at 8d. a pound, and in that way I sell a nice lot. Then I have sold a hundredweight to one shop each year at 7d. for three years in succession. The purchaser says he can buy at less money, but my honey being very fine, he would rather give 1d. per lb. more for it. I also sold some last year at a show, and they sent repeat orders, so that I have not more than 6 lb. left.

I have now thirty stocks, twenty-eight single and two on the "Wells" plan, which I am trying this year. All are alive and busy on the box, snowdrop, crocus, and white-rock or *arabis albida*. I never saw so many bees at one time in my life as there was on the white-rock on March 13; people thought my bees were swarming. But I find they are all getting short of natural stores, of which I thought I had left them plenty, as I never take all their natural stores as some do, and give syrup instead. I advise beginners to look to their bees' stores, for this mild winter has made them run short. I have given mine one lot of soft candy and shall give more at once. The bees are carrying in pollen fast, and also busy at the water troughs in great numbers; this shows breeding is going on. I am always pleased to read the kindly advice of several old friends in our journal, and also your own advice and counsel just at the right time when most needed. The B.J. is a very welcome visitor at my home. I hope all bee-men will have a good season this year, for though I have never studied the £ s. d. point so much as the

pleasure the hum of the bees gives me, yet the cash is welcome when it comes. I can say, purely I am a dear lover of my bees. There's a very old saying with us here, "a little help is worth a great deal of pity"—my advice to bee-keepers is, do all you can to help them with as many early flowering plants as you can get, and begin to get them at once for another spring—crocus, snowdrop, wallflower, white rock, hyacinth, daffodils. But just get a peep at friend "Lordswood's" letters; you get plenty there. Wishing all bee-keepers success.—G. B., *Grendon, Northampton, March* 22.

WAX EXTRACTING.

[3209.] I had intended writing in answer to "F. E. I. S." (page 93, B.J., March 10), but was prevented owing to pressure of business, but after reading the methods since described by several correspondents, I decided to describe my plan of wax extracting as it differs from others. Until the autumn of '96 I had always put the old combs and scraps of wax (carefully saved) into a large boiler and with sufficient water, and boiled until all was properly melted. Then ladle out contents of boiler into a cheese-cloth bag and squeeze out the wax, allowing it to drop into a pan of warm water. Next morning, the wax being cold, was lifted out in a cake, but it was a messy business as a lot of scraping up of wax was needed owing to the squeezing process. Then the impurities had to be scraped off the underside of cake and the wax remelted two or three times to cleanse it properly. I got about 7 lb. of wax (sold for 1s. 3d. per lb.), making about 9s. for the year's wax melting. I therefore made up my mind to try some other plan. I took a stone jar, tied a piece of cheese cloth over the mouth (letting it sink a little into the jar), then putting as much comb as it would hold into same, I poured boiling water over the combs and put the jar into the oven, which was nice and hot. Next morning I had a nice little cake of beautifully clean wax, and I at once made up my mind as to the kind of extractor I wanted, and ordered from our plumber a tin dish 14 in. long, 11 in. broad, and 6 in. deep, with upright sides, along with a top dish nearly same size to fit into the under one, exactly like a "potato-steamer," the top dish having a fine brass woven-wire bottom. The top dish I filled with comb and scraps of wax, and poured boiling water over the combs; this helps the melting process very much. The water running down into the under dish was all that was required to receive the wax. The extractor was then put into the hot oven with a brisk fire on. I went to bed feeling easy in my own mind as to the result; nor was I disappointed; I had a cake of wax 3½ lb. in weight, and of beautiful colour, with scarcely any impurities to be seen on the underside. I repeated the above process until the whole of combs, &c., had been extracted, the result being that from the same amount of combs as I had the previous years' I got in 1896 10 lb. 10 oz. of wax, which I sold for 16s., and last year I had 14 lb. 15 oz. wax, which realised £1 2s. 4d. Thus the extra wax nearly paid for the extractor (7s. 6d.) the first year. Of course, the cakes of wax must be remelted and poured into moulds to meet the requirements of your customers. If you think this method worthy of a place in your valuable paper which I read with pleasure week by week), or helpful to readers, I shall be glad to think I have been of any use in overcoming the difficulties of wax extracting. —A. D., *Parracombe, March* 28.

BEE-KEEPERS AND ASSOCIATIONS.

[3210.] The fact that members of bee-keepers' associations forget the meaning of the word association and the object of associated effort has been forced upon me many times in a way that has made a lasting impression. Many members of our associations quite forget that they have a duty to do to the society of which they are members. I think the meaning of the word "association," as applied to bee-keepers, means a united effort to further the interests of the cause we have at heart. But really, many seem to have no cause at heart outside their own personal interest. Otherwise, why is a member in a district (where there is ample scope for the bee-keeping abilities of many persons) anxious that no other bee-keeper near him should be endowed with sufficient ability to be able to compete with himself? It should, I think, be impressed upon members that one of the objects we have in view in associated effort is the greatest good to the greatest number. I have heard a member say, "I only belong to the Association for what I can get in prizes at the shows." Others say, "I don't see what good the Association does *me*." Thus we see there are some persons in the world who see no good in anything, unless they can feel the shillings tumbling into their pockets. According to reports of the annual meetings of some of our bee-keepers' associations, the members show their confidence in the honorary secretary and the executive committee by absenting themselves from the meeting, while the absence of others from meetings, and abstinence from work in any form for the association, is simply due to apathy—a small word with a meaning that is large, and may be fatal to any good cause. The number of members of our associations who do not get more than their subscriptions' worth, in one form or another, is very small. All selfishness should be put away, and while members should do their best to make bee-keeping profitable to themselves, they should not forget that our individual efforts should tend for the general good, so that we may produce the many tons of honey and beeswax

which we now import, to our loss. Tons of golden nectar are wasted because we do not keep the bees to gather it. But some bee-keepers look upon the increased number who join our craft, and the larger amount of honey consequently produced, only from the point of the reduction in price to which honey may be subjected. We should, I think, take a more liberal view, and think of the thousands who never taste British honey. A reduction in price brings any article within reach of those unable to obtain it unless cheap. We are expected to do our duty to our country. As bee-keepers, in what way can we better do our duty than by producing the honey for which we are now putting thousands of pounds into the pockets of bee-keepers in other countries? Reduction in price may be met by increased production, and we shall have the satisfaction of knowing that many more persons are able to eat the fruit of British soil. Members of associations are usually able to detect any weakness in the society or in the executive, but they fail to realise that the fact of their being associated is a claim upon them for such support to the association as is in their power to give. Not necessarily assistance by money, but those with the needful means can bring together the members in his district by arranging a meeting, where the free discussion of matters apicultural, between members of varying ability as bee-keepers, will do much to promote the good of the cause, and a cordial feeling between all. Even cottager members can support the association by lending a helping hand to neighbouring bee-keepers, especially beginners. I think it would assist the cause a good deal if quarterly meetings could be held alternately at the residence of members dwelling in different districts, where all the bee-keepers in the neighbourhood could be invited. I am aware that all our committeemen are not in a position to allow of this travelling, but on the whole question I think there is quite as much work before associations to-day as there was fifteen years ago, though the labour becomes different as time rolls on. Personally, I can testify that the work done by the Association of my county has been good and lasting, and I also realise that a good secretary and committee cannot alone successfully carry on a bee-keepers' association without they have the active support of all those who know what membership really means.—Wm. Loveday, *Hatfield Heath, Harlow, Essex, March* 25.

OUR WILD BEES.

(*Continued from page* 118.)

[3211.] This week should not be allowed to pass without ascertaining whether there are any willows, or "sallows" as they are often called, in bloom in the neighbourhood. The willow catkins are the great attraction to bees and other insects at this time of the year. Most of the willows, especially the Crack willow (*Salix fragilis*), prefer a damp, marshy situation, flourishing best on the banks of streams and dykes. In hilly, well-drained country the Goat willow (*Salix caprea*) is the common kind met with. It may be distinguished by its purplish-brown branches, and in the summer by its broad leaves, which are downy underneath. This is the only kind of willow I have found growing wild in the immediate neighbourhood of Dover. It is common in hedgerows and copses. This year, owing, I suppose, to the remarkably mild winter we have had, the Goat willow has already been seen in bloom at the time of writing (March 8); but far north it may be several weeks before it comes out. One seldom sees an isolated willow; there are generally several others close at hand. We shall notice that on some trees the bloom is of a much brighter yellow than on others. These are the male flowers; they yield both honey and pollen, and are generally more attractive to the bees than the greener female flowers. The flower buds, before they come out, are covered with long, silky, white down.

If the day we choose for our ramble is at all warm and bright, we shall find the willows swarming with insects. There is sure to be a number of *Eristalis* flies. These big, noisy insects are not unlike drone honey-bees in general appearance, but the presence of only two wings indicates at once that they have no connection whatever with the bees.

Beyond a stray butterfly or two, the next insect to attract our attention is a large humble-bee (*Bombus*) visiting catkin by catkin in a business-like way. There are only fifteen species of humble-bees to be found in Britain, but the differences between some of them are so difficult to recognise that one could fill a small book with details whereby the collector could be enabled to correctly identify his captures. The species, however, that we shall meet with on the willows at this time of year are not likely to give us much trouble. In the first place they are all females, or "queens." They were reared in the nests by the workers last autumn, and after a brief honeymoon—their mates, alas, are no more!—they went to sleep in solitary confinement, waking to enjoy themselves again on the willow catkins to-day. As we watch them apparently diligent at work sucking honey, we may notice that they pay no regard to the pollen dust, a little cloud of which floats away into the air as each flower is rifled. By-and-by, when the weather is warmer and more dependable, the "queen" humble-bee will carefully collect all the pollen she can obtain on her posterior tibiæ to bring it home to a nest she will have formed for her young, probably in some deserted mouse-hole in the ground, and thus she will found a fresh colony, in which, after a competent staff of workers has been reared, many more queens will be brought up, which, in their turn, will make fresh colonies next year.

But I am digressing. There are only three species of *Bombus*, the queens of which are usually found at willow bloom just now.

Bombus terrestris (Fig. 5) is a large species (22 mm. = about ⅞ in. long). There is a yellow band across the front of the thorax, another on the second segment of the abdomen and the apex of the fourth, and the whole of the fifth and sixth are clothed with brownish-white hairs. A race of *B. terrestris*, known as *B. lucorum*, has the hairs at the apex of the abdomen pure white, not shaded off into brown at the base; it is usually only about 20 mm. in length.

Bombus pratorum is a smaller species, measuring only 15 to 17 mm. in length. The yellow bands are placed as in *B. terrestris*, but the band on the abdomen is often broken in the middle, and the hairs at the apex are orange-red, not white.

Fig. 5.—*Bombus terrestris.*

Bombus hortorum is generally a large species. The head is long and narrow, the tongue very long, and it has two yellow bands on the thorax, one in front and the other behind. The first segment of the abdomen has also a yellow band; the apical segments, as in *B. terrestris*, are white. Typical *hortorum* has the hairs long and "ragged." It is about 20 mm. long. The race known as *Subterraneus* has the hairs shorter and closer, and is 22 to 24 mm. in length. The yellow bands and white apex may become very faint or even entirely obliterated (var. Harrisellus).

We shall, of course, see plenty of honey-bees at the willow bloom, and I presume that every reader of the B.B.J. knows a honey-bee when he sees it. Some of the female *Andrenæ*, however, bear a superficial resemblance to honey-bees, some even following the Italian variety in having the basal segments of the abdomen more or less orange-coloured. Seeing that there are forty-eight known British species of *Andrena*, it will be rather hopeless to attempt to describe them all to the beginner here.

The species most commonly met with at this season are :—

Andrena albicans.—This is a distinct species. In both sexes the basal area of the propodeum is RUGOSE or coarsely wrinkled, the abdomen is black, shining and punctured, the extreme apex clothed with reddish hairs. The female may be further known by the bright fulvous hairs on the thorax. Length, 10 to 11 mm. Common on willows, dandelions, and gooseberry and currant bloom.

Andrena tibialis.—In this species the propodeum is rugose at the base. The ♂ (male) is clothed with brown hairs; the second and third joints of the antennæ are subequal in length. In the ♀ (female) the face is clothed with whitish hairs, the thorax with dark fulvous hairs, the abdomen above sparingly with whitish hairs, and the fringe on the fifth segment dark brown; posterior femora bearing a tuft of white hairs; posterior tibiæ pale, with golden hairs. Length 13 to 15 mm. Common on willows and dandelions.—F. W. L. SLADEN, *Dover.*

(*To be continued.*)

Queries and Replies.

[1995.] *Contracting Brood-nests for the Honey-flow.*—In the B.J. of February 10 (p. 59), Mr. Doolittle, in answer to an inquiry in *Gleanings*, says that "when working for comb-honey the brood-nest should be reduced at the commencement of the honey-flow to the number of frames filled with brood; frames containing stores should be taken out and the hive contracted with dummies." Is this your opinion? If the plan is followed, I suppose it would be necessary between the different honey-flows (fruit-blossom and limes, for example) to feed the bees with syrup. Last season I took 60 lb. sections from one hive, and had a lot of honey in the brood-chamber as well. Should I by following Mr. Doolittle's plan have increased my take?—H. E. C., *Wimbledon, March* 23.

REPLY.—We entirely agree as to Mr. Doolittle's plan being the best to follow with his hives and surroundings; but bearing in mind how circumstances alter cases, we quite as surely believe that if on this side the Atlantic, and with the hives used here, his plan would be very much in accord with our own. A hive holding ten standard frames is quite small enough for the brood-chamber when our main honey-flow sets in.

[1996.] *Moving Bees in Skeps.*—I am desirous of moving four skeps of bees down to Devonshire in about a fortnight. What is the easiest and best way of so doing, and will removal be likely in any way to damage the bees? Please reply in B.B.J. I may add that I think your journal a remarkably useful paper and about the best pennyworth I know. —R. D., *King's Lynn, Norfolk.*

REPLY.—If the skeps have not already got two or more pointed skewers or sticks passed through the straw sides and combs within, you must see that this is done at once, so that the bees may secure the combs to the supports

given and so prevent a break-down in transit. In preparing for travel the skep must be lifted from its floor and set on a square of cheese-cloth or coarse scrim, and when the ends of the cloth are raised and securely tied round the skep with string, so that no bees can possibly escape, the skeps may be reversed and set bottom upward in a square rough box to keep them steady in transit. They should travel in charge of a careful carrier.

[1997.] *Hiving Swarms on Partly-filled Combs.*—Will it be safe to hive a swarm on combs partially filled with honey, and kept from last season, but not capped over? Or would you advise me to cut out the old combs and put full sheets of new foundation in?—F. E. G., *South Ealing, March* 21.

REPLY.—We should leave in the combs as they are if clean and good.

Echoes from the Hives.

Heathfield, March 26, 1898.—Am very pleased to say my bees have thus far come through the winter capitally, and are unusually strong so far as I have inspected them, yet stores in some hives are much reduced. One thing I have noticed as rather unusual: although the weather has been so very open and mild, and an abundance of furze in blossom for weeks past, yet the bees have been very quiet, and have gathered almost no pollen until this last week or ten days, and since then they have been at it like mid-June, and several days willow-honey has come in tolerably fast, but on the 24th snow began to fall and has kept on up till now and very little honey has come in since then.—H. N.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

A. H. Y. (Southport).—*Improving Colour of Wax.*—Though something may be done to improve the colour of wax by repeated meltings and pouring into cold water, you cannot make dark beeswax light. Wax extracted from old combs is generally stained so completely by the cocoons, &c., of repeated hatchings of brood in the cells that it cannot be made of good colour. Some add a small quantity of sulphuric acid to the water in which the wax is melted to improve the colour. A teaspoonful of acid is enough for half a gallon of water.

W. C. H. (South Devon).—*Glass Covers for Frames.*—1. The glass should never be laid direct on tops of frames, but in a wood frame, which will allow a clear space for the passage of bees from one comb to another. 2. If syrup is heated to boiling point to freshen it up, there will be no danger in using it as spring food.

E. T. (Penryn).—*Moisture Running Out of Hives in Spring.*—If the "clear fluid" mentioned is condensed moisture, it is a good sign, but if, as you say, it has a sweet taste, and may be syrup or honey, the hive should be examined to find out the cause.

J. C. (Ilminster). — *Suspected Comb.* — The comb received contains only pollen. The white substance suspected is simply mildew formed on surface of pollen.

T. W. P. (Kilmarnock).—*How long Naphthol Beta Solution will keep.* — If the proper ingredients are used the solution will keep quite good for several years.

A CONSTANT READER (the daughter of a clergyman in Kent) writes us to say that having to leave the old house she is compelled to sell her bees (three stocks). They are each strong, healthy, and in the best of condition. Any reader feeling disposed to purchase may have particulars on writing to E. F. W., care of Editor.

Several letters, queries, &c., are unavoidably held over till next week.

Special Prepaid Advertisements.

Twelve words, Sixpence; for every additional Three words or under, One Penny.

TWO TINMEN WANTED, used to Extractor making; also JOINERS WANTED used to Bee-hive making. BLOW, Welwyn, Herts.

FOR SALE, 1 cwt. of Fine EXTRACTED HONEY, 7d. per lb. Packages free, and carriage paid. W. LANGFORD, Cheapside, Wiveliscombe. U 48

WANTED, EXTRACTOR. State condition, maker, price, to BAXTER, Woodgate, Quinton, Birmingham. U 89

BEE-KEEPERS interested in forming a READING CIRCLE for leading American and Canadian apicultural publications, please send stamped envelope for particulars, to "BEECROFT," Ashford, Staines.

FOR SALE, NINE strong STOCKS of well-wintered Bees in bar-frame hives. Also drawn-out combs in shallow frames. Apply JACQUES, Hornington Cross, Rollestone-road, Burton-on-Trent.

12 STOCKS BEES. Wood hives, 10 frames, rack of sections, or box shallow frames each. Packed, 22s. 6d. each. WEDDELL, Alne, Easingwold, Yorks. U 86

WANTED, Stong Healthy STOCK of BLACK BEES in bar-framed hive. State lowest prices. Address, BEE, 16, Uxbridge-road, Ealing, W. U 85

QUEEN FOR SALE (reared 1897). Address, GAMBRILL, Tailor, Bagshot-road, Ascot, Berks. U 54

Editorial, Notices, &c.

BRITISH BEE-KEEPER'S ASSOCIATION.

The monthly meeting of the council was held at 105, Jermyn-street, S.W., on Friday, April 1. Mr. E. T. Dill occupied the chair, and there were also present Major Fair, Miss M. L. Gayton, Messrs. R. C. Blundell, W. Broughton Carr, W. H. Harris, R. Hamlyn-Harris, J. H. New, E. Walker, and the Secretary. Letters apologising for inability to attend were received from the Hon. and Rev. Henry Bligh, Messrs. W. O'B. Glennie, T. L. Weston, and C. N. White.

The minutes of the previous meeting were read and confirmed. The Finance Committee reported that the receipts for March had been checked and compared with the payments to bankers, the amount standing to the credit of the Association on March 31 being £41 12s. 5d. Payments amounting to £15 were recommended by the committee, and the report was approved.

The report of the Education Committee, presented by Mr. W. H. Harris, stated that arrangements had been made for the preparation of the "Question Paper" for candidates for first-class certificates at the examination to be held on May 5. A recommendation of the committee that in future candidates should be known by distinguishing numbers rather than by their names, was endorsed.

The British Dairy Farmer's Association having invited proposals in regard to the classification for honey at the Dairy Show, and for the assistance of some members of the committee in the arrangements of the department, a sub-committee was appointed to draft proposals for approval in due course.

A letter was read from the Secretary of the Royal Counties Agricultural Society, stating that a grant of £15 had been made towards the expenses attaching to the holding of an exhibition of bees and honey at their meeting to be held at Portsmouth on June next. It was resolved to undertake to promote such an exhibition. The Chairman reported progress in regard to the establishment of the proposed Association Apiary, after which the meeting terminated.

CORNWALL B.K.A.

ANNUAL MEETING.

The annual meeting of Cornwall Bee-keepers' Association was held at Truro on the 30th ult. under the presidency of Mr. J. P. Richards. The report stated that the Association was established in 1881, expired about 1886, and was resuscitated at the Royal Cornwall Agricultural Show at St. Ives in 1896, under the guidance of Mr. W. K. Baker, an old member, and Mr. T. W. Cowan, President of the British Bee-keepers' Association, to which the Cornwall Association was now affiliated. The County Council had made a grant of £50 per annum to the Association, to assist in giving technical instruction in bee-keeping. During the last season Rev. W. T. Adey and others gave a series of lectures in the county. Mr. J. Brown, of Launceston, the expert of the Association, had visited 114 bee-keepers, owning 165 frame-hives and 323 straw skeps, in a tour of the eastern division of the county. Eight cases of foul brood were reported. These figures showed that in the eastern division they were far behind in modern bee-keeping, and the Association had much to do to change the figures and the views of bee-keepers. The majority visited were not giving the bees so much attention as they deserved. The financial statement showed that the year started with a balance of £19 and ended with a balance of £50 in hand. Subscriptions for 1897 amounted to £25 14s., and £33 was received from the County Council. Mr. T. R. Polwhele (hon. secretary and treasurer) reported that Mr. Brown had arranged a tour of twenty-one days in West Cornwall. Up to the present no expert had been found in the western part of the county, but there would be an examination for experts' certificates at the forthcoming Royal Cornwall Agricultural Show at Penzance. The President (Hon. J. R. de C. Boscawen) and other officers were re-elected, and Mr. E. F. Whitley was appointed auditor. Mr. R. Williams (Ladock) said the Royal Cornwall Show was held too soon to permit a proper display of honey, and he suggested that a show should be arranged at Truro later in the year. In his district there was no honey before the middle of June. It was resolved to purchase a bee-tent to send round to various shows.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted will oblige by mentioning the number of the letter, as well as the page on which it appears.*

COVERINGS FOR BEES.

QUILTS AND SEPARATORS.

[3212.] Snow, wind, rain, varied by rain, wind, and snow, and plenty of each sort; such is the weather here while I write. Roofs of hives have been careering around the apiary quite merrily for the past three or four days, with a consequent wetting of quilts. How this will affect the bees of some bee-keepers—who

will "go in" for a little covering in the shape of quilts as will just keep the bees down amongst the combs—I don't know. With myself it doesn't matter much, as I have quite a pile on each hive, so if the top one does get wet it only needs removing and drying; the wet doesn't reach the bees. This pile of quilts I very carefully keep on the hives both *summer* and winter. Often have I heard the remark made that as the warm weather has arrived, some of the quilts had better be removed to keep the bees cool. Now, we *do* know that extra coverings on our bodies keep us warm, and during hot weather it is necessary to remove some, or we should become many degrees too warm; but this argument does not apply in the case of the thickness of our house walls or roofs. A thatched cottage with thick walls is cooler in summer and considerably warmer in winter than a thin-walled house with slate roof. The case of our bodies is just reversed to that of the house—or, say, hive. The warmth in our case proceeds from the inside; that is, we make our own heat, and so put on extra clothing to keep that heat from escaping and passing away. We also use flannel instead of calico, simply because flannel (wool) is a bad conductor of heat, and so it appears to us warmer, though in reality it is not so. In the case of a hive or house, however, the heat comes from the outside (the sun), so we interpose a thick non-conductor between the source of the heat and the place we wish to keep cool. By this it will be seen that the non-conductor performs exactly the same office as it does when we place on our bodies thick or wool clothing. But in winter the thatched house is warmer simply from the fact that the same non-conductor of heat is interposed between the source of warmth (the fire and ourselves) and the outside or cold part, thus we get a higher or less variable temperature in the inside. I have been preaching and preaching these facts to novices for years past, but I don't think I've written about it much in these pages, though I feel very strongly on this subject. Another point—in fact, the principal one—must not be lost sight of in the case of a hive, though it is exactly on a par with the foregoing. By having plenty of coverings we get a more equable temperature within the hive; that is, we very materially assist the bees in keeping an almost uniform temperature, so work progresses without interruption, which it would not do if the temperature varied to any great extent. Suppose we simply put a single, or, say, two quilts on our supers, and the bees are just busy within them. A cold snap—and we do get these quite frequently—comes on during the night; down go the bees into the body box, leaving their work, which during their absence gets cold and the wax unworkable, and they often do not return until quite late in the morning of the next day, when the increased temperature from outside the hive warns them to be up and doing. Now, if we thickly (as thick as you like) cover up the supers with non-conductive material we prevent the escape of heat from the same, and the bees remain all through the night in the supers, as it is warm enough for them, and work almost as hard as they do during the day time. This means more honey.

Separators.—I was present at the annual meeting of the B.B.K.A. the other day, when some discussion arose upon zinc *v.* wood separators. Now, this is another point I feel strong upon. First of all, I'm for zinc; in fact, as I said at the meeting, I would not have wood separators in my apiary on any account. I don't like the expense of wood separators at all; they cost three or four times as much as zinc—of course, not at the first outlay, for with an ordinary amount of care they will last an indefinite time. I know that I have zinc separators in use that I made (before slotted ones were introduced) twelve or fourteen years ago. Where would wood be in that time? One gentleman present made a statement to the effect that "owing to the warmth within the hive metal separators buckled"; but if a metal separator buckled from this cause $\frac{1}{16}$ in., a wooden one under like circumstances would do the same to the extent of $\frac{1}{2}$ in. A metal separator, if properly placed in the rack, will not buckle with the heat of the hive to the extent of a hair's breadth; in fact, it will keep its shape perfectly, while wood ones will go all manner of shapes, with a consequent variety of forms in the sections. Now the heat problem comes in here. Many say zinc separators are colder. Yes, to one's fingers when they have been exposed to a low temperature; but, on the contrary, they are very hot when they have been exposed to a high temperature. Zinc (in fact most metals) very quickly absorbs heat—notice quicksilver; so before the bees "go up" into supers the zinc separators are of just the same temperature as the surrounding air in the super, and as quickly as the bees "swarm" into the supers so does the heat of the separators increase, so quickly do they absorb caloric. It is well known that a polished surface appears to our sense of touch colder than a rough one, but it is really not so. It arises from the fact that it is non-absorbent of the moisture given off by the fingers. To my mind, then, the foregoing is theory based on very sound argument, and backed up by very strong practice, which practice has brought my mind to such knowledge that I hold up both my hands for zinc separators.—W. B. WEBSTER, *Binfield, Berks, March* 27.

REMOVING BEES FROM HOLLOW TREE.

AN EXPERIENCE IN "SMOKING OUT."

[3213.] Referring to Query 1991 (page 119), it may be helpful to your correspondent if I give my experience two years ago in getting some bees out of a large oak we have

on the estate here. I proceeded thus :—Having got my smoker going well, I placed the nozzle in one of the holes and filled the tree full of smoke, using a little paraffin oil on the brown paper. I noted the principal place where the smoke issued, and then filled up all the hollow part of the tree with clay, leaving a hole about 4 in. wide to enable the bees to come out. After filling all other holes with clay, I bored with a large auger several holes in the tree below, in order to find out how near to the ground the bees were located in the trunk; having ascertained this, I began to puff smoke in at each hole bored, plugging them up in turn, and then violently hammering on the tree-trunk. After about three hours' work, I had driven all the bees out of tree into a skep fixed on the tree, a little above the hole and out of the way of smoke. There were so many bees, they could hardly crowd themselves into a large skep. The following evening I transferred them to a frame-hive. I intend trying the same game again with another tree this year, near by. I have not examined my bees yet, but shall do so shortly. I believe more damage is done by examining hives too early than many are aware of. Bees are very strong at date of writing, and, judging by the amount of pollen they carry, they must be breeding well.—J. P., *Stowmarket, April* 1.

RENDERING WAX.

[3214.] May I be allowed to reply to "F. E. I. S." (3179, p. 93), and say neither burn nor bury the pile of comb. Try again. So many bee-keepers have failed in their first efforts at rendering wax, but, after repeated trials, have eventually succeeded, that it is worth the effort. It is certainly wasteful to destroy combs, the wax from which will add not a little to the income from the apiary. Those who cannot give the necessary time to wax rendering should offer their comb and cappings to another bee-keeper. It has been truly said that no one should keep more bees than can be thoroughly managed, and surely wax-rendering is essential to good and careful bee-keeping. I myself went through much of what is included in your correspondent's "wail" in my novitiate days; but improved with each try, and now rendering wax troubles me very little more than extracting honey. I think those bee-keepers who wait till a pile of comb has accumulated make a mistake, as much wax is lost by the action of the air; besides, moths are harboured, and the room where the comb is kept made continually untidy. I have tried the accumulated pile plan, and others, including ramming the comb into a large jar and making it air-tight till the great day with the copper, looked forward to with dread, but have long since given these plans up. I now grade my combs in three receptacles for comb, viz., white comb, stained comb, and dark comb, the last including scrapings from hives, and anything that can be included under scraps. If possible, I have a few hours at rendering wax once a week while any remains on hand. I never allow the comb to lie about much over a week. I use a basin with a rim, and a block-tin "colander" about the same size as the basin. After filling the colander with comb, a small quantity of boiling water is put into the basin below, and the colander raised on three bits of wood a little above the basin bottom, to allow of water all round the wax receptacle. The whole thing is then placed in a moderately warm oven—the one in constant use beside the kitchen fire. When one lot of comb has melted down the colander can be refilled once, but no more, as the refuse will be too much stewed, and deteriorate the quality of the wax. All comb containing honey, or any that is dirty, is put into a coarse cloth and soaked in a pan of water for a few hours, and afterwards squeezed dry before wax rendering is commenced.

I was much surprised last summer at the quantity of wax I rendered from the queen cells that I cut out of my hives at swarming time. I hope "F. E. I. S." will try again, in the light of my experience, and succeed.—Wm. Loveday, *Hatfield Heath, Harlow.*

A WINDY DAY AMONG THE BEES.

SPREADING BROOD IN SPRING.

[3215.] We have in these parts been recently experiencing a taste of genuine March winds, which took us quite by surprise after the splendid time we had in February. Indeed, so far as the effects of the storm on our hives, it would need the pen of a "Lordswood" to describe some of the "happenings" in the apiary on Wednesday, March 23. The gale began in the morning, and among its vagaries we had the covering pan whipped off a skep in a twinkling; then played shuttlecock with a couple of zinc roofs, carrying them in all directions, and after having its own way for some hours, getting worse and worse till just after midday. About this time I had just finished my dinner, and was returning to work past the apiary—which is situated a short distance from the house—when I noticed one of my father's hives upset by the wind, and almost turned inside out! The roof gone, quilts scattered anywhere, combs lying about broken in pieces, and away from the frame which had contained it. A lot of bees clustering on or being blown off the broken comb. Other frames lying on top of each other, the poor bees tightly imprisoned between them half dead with cold, and the remainder, which also looked nearly dead, were lying in a pitable condition about the garden and amongst the quilts. I did my best in gathering up this wreckage, and had got part of the numbed bees and frames into the hive when the wind—after blowing the bees and pieces of comb clean away off the shovel into which I had gathered

them—caught the hive and carried it clean away for several yards, making the "mess" worse than before. However, I stuck to my job, and went through my cold task again as best I could. In the end, fully half of this splendid stock, which my father claimed to be his best colony, was destroyed. Before the mishap the bees covered fully eight frames; now they barely occupy four.

I am glad to be able to say the serious mischief the storm did was confined to this hive, all our other stocks being in first-rate condition.

We have now decided to do away with long legs to the hives, to keep them from being blown over. Our unsheltered position makes this precaution necessary, when such storms as that of last week come upon us.

Notwithstanding the fact that some writers disapprove of it, our method of working has been for some years past and still is to practise both stimulative feeding and spreading the brood in spring. We carry out our plan by first placing the combs containing only a small quantity of brood in the centre; then, as the weather gets settled and warm enough, we put an empty comb right in the centre of brood-nest, and if the favourable conditions continue we repeat this last operation at intervals of ten or twelve days, until the hive contains the full number of frames (ten). Great care must, however, be taken by all who practise this method only to spread brood when there are enough bees to warrant its being done with safety. But what ordinarily careful bee-keeper will fail in attending to this point, when he is so plainly told that chilling of the brood will result if it is disregarded? Besides, failure usually attends want of care in matters connected with bee-keeping, and a stock will be thrown a good deal further back than if left alone entirely, unless the bee-keeper has the common sense to exercise care in brood-spreading.—BEVERLAC, *Beverley, Yorks, March* 28.

SIMMINS'S "CONQUEROR" HIVE.

[3216.] At the Quarterly Conversazione of the B.B.K. Association, held on the 17th ult., it is reported on page 123 of March 31 issue, that Mr. J. S. Greenhill showed a model of a new non-swarming hive, somewhat on the Simmins plan, but with quite new features of its own. *The main idea was a sliding chamber below the brood nest, which could be withdrawn when the bees had got well at work comb-building therein, and set above as a surplus chamber, being then replaced by another empty one, thus giving room and air below the brood nest as long as hot or swarming weather continued.*

Seeing that the principle involved in the said new feature is identical with the origin of the Conqueror hive, and has been constantly indicated in my circulars describing the management of the same ever since its introduction, it is a mystery to myself how either Mr. Greenhill or your reporter could have so missed the mark as to have credited Mr. Greenhill with an idea which already formed an integral part of my "Conqueror' hive.

I may also state that there is no need to add complications in the shape of providing another entrance to the hive, as the brood chamber itself may be brought down to the ordinary floor and entrance.

Furthermore, having once seen the advantage of being able to winter a stock of bees without the old closed floor board, and with the brood chamber itself hanging some five to ten inches above its floor at that season, no bee-keeper will care to return to the old way, though the construction of the hive is so simple as to allow of any modification to suit the operator's experience.—SAMUEL SIMMINS, *Heathfield, April* 4.

WOOD COVERS FOR SECTIONS.

[3217.] Referring to the report on page 113 of the proceedings at the B.B.K.A. conversazione, regarding Garner's new section-lids, will you kindly allow me to reply to the statement made that the lids, or covers, might bruise or damage face of comb? Not being able to be present or explain in person, I would like to say the lids or covers were designed for use with the ordinary two or four way sections, the edge of lid being rebated about 1-16th in., while face of comb is, as a rule, about 3-16th in. from edge of section, leaving about 1-8th in. clear space between lid and face of comb. The above were not meant for use with the no bee-way plain sections. As now in use, with plain sections, $1\frac{3}{8}$ in. or $1\frac{3}{4}$ in. and comb kept back $\frac{1}{8}$ in. from edge of sections, they would be equally suitable. Shall feel obliged if you will insert above explanation. I wish also to thank Mr. Brice for kindly undertaking to explain the few items I sent to the meeting. It was a voluntary kindness on his part for which, as a stranger to him, I am much obliged.—W. R. GARNER, *Dyke, Bourne.*

(*Correspondence continued on page* 136.)

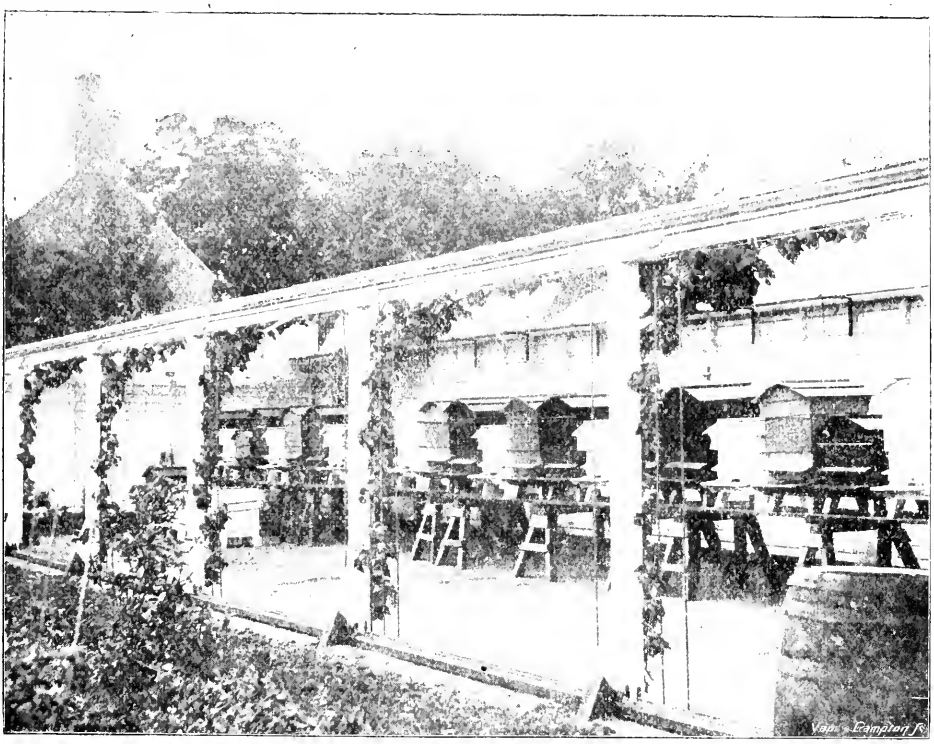
HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

The apiary shown on opposite page is quite a new departure from those hitherto illustrated in our pages. Its owner, Dr. King, being an enthusiastic horticulturist and bee-keeper, no doubt intending to make the spacious bee-house serve both his hobbies. Some readers will be, perhaps, doubtful as to the stability of the platform on which the hives are ranged, but in a place so well built this point will not be overlooked. In response to our request for a few particulars, Dr. King writes as follows:—

"From my earliest recollection shooting in one form or the other has been my greatest

hobby, and I well remember how on a certain occasion this propensity first induced me to scrape acquaintance with the bees. My grandmother had a number of straw skeps, and I had a cross-bow which shot an inch or two of clay tobacco pipe stem with tolerable accuracy. I was ten or twelve years old at the time, and, planting myself about the same number of feet in front of one of the hives, I took a shot for the entrance, which was so far successful that I had some scores of bees about my head before you could say 'Knife!' I ran into the house calling for help, but needless to say, I was woefully stung before my arrival, and your readers will very justly say, 'Serve him right.' This cured me of bees for many years, but afterwards when I took a moor in Scotland with a profusion of purple heather growing on every side, I invested in a few straw skeps, and with these started bee-keeping. Most of the work was, however, left to my gardener, and needless to say the profits were *not* large. I returned to Lincolnshire in 1887, and a few years afterwards bought about two dozen bar-framed hives from a neighbour. At this time I had no experience whatever of frame-hives or of foul brood, but, having fortunately joined the Lincs. B.K.A., one of the experts came down and soon conclusively proved to me that the condition of my apiary made total annihilation absolutely necessary in consequence of foul brood! And this was rigorously carried out. Not to be beaten, however, I resolved early in '97 to start again *de novo*. Accordingly, I bought a number of stocks of bees, and, with the expert's help, transferred them into new frame-hives. The result is so far satisfactory, as I secured a fair supply of honey last year, and have now thirty-two hives in good condition for work in '98. Referring to the bee-house or shed—shown in photo—in which the hives are placed, it is 60 ft. long and 16 ft. wide, 10 ft. 6 in. in height at back, and 7 ft. 6 in. in front. The latter can be readily closed for the winter by sliding doors fitted with small grooved wheels of gun-metal let into the sill and running on iron rails passing each other side by side. In summer these doors are removed altogether, and the back ventilators thrown open.



DR. ROBERT KING'S APIARY, SPALDING, LINCS.

"It is said that 'no man can serve two masters,' but I am unreasonable enough to suppose that my bee-house may possibly accomplish that which is not given to man to perform, for I expect it to serve my gardener as well as my bees. With this in view a vine border has been made in front and five vines

planted, one of each at the central pillars, the object being to afford the bees much-needed shade from the summer sun, and a few dishes of grapes in autumn. The vine border is planted with *Limnanthes douglasii*, partly for the purpose of protecting the young vine roots and partly with the idea of affording the bees a little nutritious recreation in the early spring without going far to seek it. The experiment is perhaps too young to enable one to express any opinion at present. When the house was first erected, the bees flew up to the glass instead of passing out back or front, as there was every facility for doing. Many were lost by their persistently trying to get through the glass till they fell exhausted upon the floor. To avoid this I raised the glass about half an inch, both back and front, so that bees can now get in or out whether the house is closed or open. Since adopting this precaution I do not think any bees have been lost from this cause."

CORRESPONDENCE.

(*Continued from page* 134.)

DEALING WITH FOUL BROOD.

BUYING BEES AT AUCTION SALES.

[3218.] May I be allowed to reply through your columns to "Disgusted Bee-keeper," who writes on page 115 of B.J. for March 24. Your correspondent calls it "a flagrant case of injustice," and says he enumerates the facts, which statement I deny, and I say he does not adhere to the facts. When, at the sale in question, your correspondent asked my opinion about the bees, I advised him to use his own judgment; but as he was not satisfied with that, I therefore told him I should say nothing either for or against the bees. This, however, appeared to greatly annoy him.

Now, as a matter of fact, "Disgusted Bee-keeper" and his friend attended the sale to buy, and I also went to buy, knowing well what the bees were, as I had the main hand in their management for the last seventeen or eighteen years for the late owner. On the other hand—and seeing several bee-keepers present who meant going by my judgment in the matter—I thought it would be to my interest if I got some one else to bid for me, which I did. And when the sale was over, and "Disgusted Bee-keeper" asked who this man was buying for, I replied that he was buying for me. This also appeared to greatly annoy him. I bought twenty-three out of the thirty-five stocks. Now, sirs, when your correspondent says I admitted that the apiary had been affected with foul brood, I deny his statement entirely as being not true. When he asked me the second time if the bees were diseased, my reply was, "I have never said they were diseased."

Now, I ask, would any man possessing a grain of common sense, and knowing as I do about them, buy those twenty-three stocks of bees and place them along with over sixty more of my own, if they were diseased? Yet these are the bees placed within 300 yds. of the large apiary of six stocks which a "Disgusted Bee-keeper" has been at such great expense in establishing.—THE BUYER AT THE SALE, *St. Neots, March* 31.

ENTOMOLOGICAL.

WASPS AND BEES IN SOUTH AFRICA.

[3219.] Herein I am forwarding you three insect specimens marked 1, 2, and 3 respectively, and should be obliged if you could give me the following information in the B.B.J. No. 1, which I take to be a wasp or hornet, is very destructive to the honey bees here. Its *modus operandi* is to dart at the bee in flight and seize it! Both then fall to the ground. After a short struggle the wasp invariably kills its victim, and, after apparently sucking it for about a minute, flies off and prepares for another. Their favourite position is on the roof of the hive, from which they scoop down on the bees either when going out or returning. It is very quick on the wing and difficult to catch with a net, so the poor bees seem to have no chance.

When the little murderers are at work I notice that the bees do not fly straight into the hive but dodge about and shoot in when the enemy is engaged elsewhere; in some cases, however, the hive seems to stop work altogether for a time, and get reduced in numbers so much that the stock often becomes quite useless.

They also lie in wait for the bees at a crop of flowers on which they may be working busily. No. 2 is a smaller kind, with the same predatory habits, but I have not noticed so many of them, and although much smaller than the bees, they do not hesitate to attack and kill them. No. 3 is a specimen of the victims, and I only send it as a representative of the average worker, and should like to know how you classify it.

Regarding Nos. 1 and 2, I should like to know (1) the name, genus, &c., for classification in the museum here. (2) Their breeding habits so as, if possible, to find and destroy their nests. I am glad to say that they do not trouble us all the year round, but only during summer from about December to March, and especially during hot, dry weather.—A. C. S., *Durban, Natal, February* 4, 1898.

[We handed the above to Mr. Sladen, whose papers on "Our Wild Bees" are now appearing in these pages, and he kindly sends the following in reply.—EDS.]

Nos. 1 and 2 are not true wasps, but *Sphegids*, or "sand-wasps," belonging to the genus *Pulurus*. This is a genus of small extent. It occurs on the Continent of Europe, and has also been recorded from India and from the Ethiopian region. Its precise habits

of nesting are not well known, but they probably resemble those of the well-known closely-allied genus *Astatus* (of which there are two British species), the females of which make their burrows in sandy places, and capture various insects for the sustenance of their larvæ. The European *Palarus flavipes* is said to stock its nest with hymenopterous insects, and one authority—Dufour—gives a list of eighteen genera, species of which were found among its victims. Whether the list included the honey-bee I cannot say.

All the "sand-wasps" are solitary in their habits, and therefore little good could be done by destroying one or two individual nests, unless a number of them could be found in one spot. The specimens you send are females; they possess powerful stings, and your description of the way they attack the honey-bees is interesting. It would be very interesting if you could track them to their burrows, and discover how the victims are disposed of. The males would probably be found near the burrows, and earlier in the season than the females.

There is only one species of "sand-wasp" that is known to attack and carry off honey-bees in England. This is the *Philanthus triangulum*. It used to be taken abundantly in Sandown Bay, Isle of Wight, but it has not occurred there now for many years. It is now very rare in this country. *Philanthus* is not closely related to *Palarus*.

No. 3 is the ordinary worker honey-bee (*Apis mellifica*); it is too much crushed for me to tell whether it is an indigenous or an introduced variety.—F. W. L. S.

WAX EXTRACTION.

[3220.] On reading the "Correspondence" in last and the previous weeks' B.B.J. on the subject of wax rendering, I am somewhat surprised that no one has mentioned the very simple way I do my extracting. I place the scraps of comb, &c., regardless of quality, in an ordinary hair sieve, and set the same on a saucepan of the same size round as the sieve, having previously filled the former half full of water. When the water boils, the steam melts the wax, which runs through into the water below, and can be taken out in a cake when cold. I find that this method requires no attention after the saucepan is put on, and has the additional advantage of rendering wax of a very fine colour, no matter how black and old the comb may be before melting.—H. C., *Norwood, S.E., March* 30.

BEES AND TITS—THE BITER BIT.

TOMTIT KILLED BY BEES AT SKEP ENTRANCE.

[3221.] As a reader of the B.B.J., and referring to the question of bees and tits, I thought it might interest bee-keepers to hear of a case where the tit got the worst of it. The other afternoon, on passing my hives, I discovered something blocking up the entrance of a straw skep, and on pulling it out I found it was a tomtit which had got jammed in the entrance, its head and neck right in up to the body so that the bees could neither get in nor out. On examination I found the head of the bird had been stung in a good many places, and it was quite dead and stiff. These birds were very busy round the hives on March 25, while the snow lay on the ground. I send the bird on for your inspection, to show there is no mistake.—A. R., *Pembury, March.*

[There is, indeed, no mistake about death having been caused by stings; so it is a veritable case of "the biter bitten."—Eds.]

OUR WILD BEES.

(*Continued from page* 129.)

[3223]. *Andrena rosæ*, var. *Trimmerana* resembles *A. tibialis*, but has the propodeum smooth and shining in the middle, under the hairs. The ♂ resembles *tibialis* ♂, but the third joint of the antennæ is much shorter than the fourth. The ♀ with the third joint of the antennæ shorter than the fourth and fifth together; the abdomen above sparingly clothed with pale brown hairs; apical fringe, dark brown; posterior tibiæ, dark brown above, white below. Length, 13 to 15 m.m. Very common on willows.

The above, especially the last named, are the commonest early spring *Andrenæ*. There is, however, another species, *Andrena Clarkella*, which has a name for making the earliest appearance on record of any wild bee in Britain. I have not yet taken this species in the neighbourhood of Dover. It is said to be common in many places. The female may easily be recognised by its bright, fulvous thorax and *black* hairs on the abdomen, the posterior tibiæ and tarsi are pale, and clothed with golden hairs.

It will be a little difficult at first to make a good shot with the net at the small male *Andrenæ*, which circle mostly about the tops of the willow canes like flies.

Several of our spring species of *Andrena* are much subject to the attacks of a curious little insect called a *Stylops*. One or two—sometimes even three—of these little parasites may be seen protruding from between the segments of the abdomen, and the bee thus attacked has a strange immature look about it. The effects of stylopisation are remarkable. If a male is affected it tends to assume the characters of the female, more or less; for instance, the head generally becomes smaller, and the abdomen and posterior legs become more densely hairy than in normal examples; on the other hand, a stylopised female often tends to resemble the male, in having the hairs on the posterior tibiæ short and thin, the head is generally smaller, and the abdomen is often

swollen and contorted. The wings may become malformed in badly-attacked specimens, so that the bee is unable even to raise itself from the ground. Such miserable individuals are not rare, particularly near the burrows of some species of *Andrena*. It is often difficult or impossible to name stylopised specimens of bees.

Before closing this part of my subject I should like to say a word to the collector who is fortunate enough to find himself amid willow bloom in Lancashire. There he may chance to meet with *Colletes cunicularia*, which is an interesting species of an interesting genus. Systematic entomologists are still puzzled as to where the genus *Colletes* should be placed. It resembles *Prosopis* in some points of structure, but differs widely from it in others, and also in general appearance and habits. All our other species of *Colletes* appear in August, frequenting chamomile and other herbaceous flowers, but *C. cunicularia* comes out in April. It is also much larger than our August-appearing *Colletes*, and it superficially resembles a black honey-bee quite closely, but it is a trifle larger and more hairy. The localities given for it in "Hymenoptera Aculeata" are Wallasey; Southport; Waterloo Coursing Ground, near Liverpool; Crosby; Blackpool; Rock Ferry; and Chester.—F. W. L. Sladen, *Dover*.

(*To be continued.*)

Queries and Replies.

[1998.] *Preserving Drawn-out Combs.*—In view of the recent correspondence, on the advantage or otherwise of using drawn-out combs, between Mr. W. Woodley and Mr. A. Sharp, would you kindly give me your advice, as I have a lot of partly drawn-out sections, and also a lot of combs in shallow-frames, which I had stored away for another year; but as I have a little foul brood in my apiary, would you advise melting down all old combs so as to avoid risk of spreading the disease?—P. A. D., *Devon, March* 29.

Reply.—If the question is to be judged from the "risk of spreading disease" standpoint, it favours Mr. Sharp's idea of melting down combs as best; and, with regard to combs used on hives in which foul brood exists, we should certainly not advise their being used again. On the other hand, we personally set great value on store-combs for extracted honey, and have preserved such for use with much advantage for years. The same with partly built sections; but we never cared much for using combed sections from which capped honey has been extracted, and the combs pared down for re-filling.

[1999.] *Stimulating Bees in April.*—I am anxious to have my stocks strong in time for the fruit-blossom, and, from your replies to various correspondents, I gather that I can safely commence stimulative feeding now. I would mention that, when examining the hives on March 22, I found ample stores untouched, and therefore ask whether I should stimulate with syrup or by breaking the cappings of combs already in the hives? If by the latter method, how often should I uncap, and in what quantities at a time?—R. S. S., *Swansea*.

Reply.—Where sealed stores are known to be plentiful, there is no need to give syrup-food, unless about a pint of warm syrup be given, to start the bees off as it were. After this, and when pollen is coming in freely, just scratch or bruise about three inches of sealing twice a week.

[2000.] *Buying Bees at Auction Sales.*—I herewith send you a piece of comb taken from the hive of a friend. The bees were alive last autumn, but have died some time this year. I may say the hive and bees were bought at a sale last spring. Is there "foul brood" in the enclosed comb? and since when do you think it has been affected?—"Cymro," *Carmarthenshire, March* 29.

Reply.—Comb is badly affected with foul brood, and, of course, may have been diseased when bought at the sale referred to.

[2001.] *Are Bees a Nuisance?*—Being in somewhat of a difficulty respecting my bees, I ask your advice in the following circumstances:—I have a nursery three acres in extent, mostly fruit trees, and have an apiary of twenty stocks of bees, all purchased within the last twelve months. Behind the bees is a high laurel hedge separating my place from the grounds of a neighbour. In front, where the bee-hives stand, is just half an acre of strawberries, then another piece of ground, fifty yards wide, and a high hedge separating my place from the kitchen-garden of another neighbour; then, further on comes the road, next a high wall, and then we reach the private grounds where my first-mentioned neighbour grows prize carnations for exhibition. He has complained to my landlord, that the bees are a nuisance to him, and talked of obtaining an injunction to prevent me keeping them, as he says they cross to his place in crowds and spoil his carnations. Only one boy has so far been stung. Now my inquiries are:—1. Can anyone prevent me keeping bees? 2. What course would you advise me to adopt? I have no wish to be a nuisance, or the cause of one, but it would be a serious loss to me, especially as I am just forming a local bee society. My ground is surrounded with gardens.—S. S. G., *Woolston, March* 26.

Reply.—There is always more or less of difficulty in determining the legal point of what constitutes a "nuisance" to neighbours, but to our mind, it would take a clever lawyer to obtain an "injunction" because of bees spoiling

prize carnations! Did ever anyone before hear of carnations being included among bee-flowers? We never yet saw bees working on these flowers in all our experience. It appears to us as if the threat referred to is merely what Americans call a bit of "bluffing," and not intended seriously.

[2002.] *Using Combs from Diseased Hives.*—I am sending you a piece of comb for examination; kindly say if diseased. If not, will the best of the combs do to use again? They were new last summer. There were few dead bees in the hive, but plenty of honey and pollen. 2. The upper stories of my hives are made with moveable inside walls, intended both for extracted and comb honey. When used for shallow-frames, the frames rest on the walls, the outer case forming the frame-box. Does this plan work satisfactorily? 3. Is there any objection to running shallow-frames across those of the brood-chamber, and should they be wired? 4. Is drone or worker foundation best for shallow-frames? 5. Do you consider Italians better than blacks for my district? 6. Can I, at this time of the year, unite a queenless stock in a skep, with a colony in a frame-hive.—E. R., *Sussex, April* 1.

REPLY.—1. Comb is badly affected with foul brood. The whole of such combs and frames in the hive from which sample was taken should be burnt, and the hive thoroughly disinfected before using again. 2. Yes, if properly made. 3. No objection at all. We never wire our shallow frames. 4. Our plan is to give one half depth sheets of worker-cell foundation, and let the bees complete the combs with either worker or drone cells, as they please. 5. No. 6. Yes, but it needs care to prevent the queenless lot being killed off. Use flour for uniting, and shake some of the bees from the frames on to alighting board to run in along with the queenless bees driven from skep.

[2003.] *Transferring Bees from Skeps to Frame Hives.*—You would greatly oblige me in answering the following question through your valuable paper:—Being the owner of some old-fashioned straw skeps, I lately bought a few of Neighbour's Economic-frame hives, and would like to know the best time of the year to transfer the bees to their new home?—G. de M., *près Pontorson, Manche, France, April* 2.

REPLY.—In your more favoured climate we should think it will be quite safe to transfer in a couple of weeks from this date. But we advise our correspondent to try the English method of transferring bees from skeps to frame-hives, *i.e.*, by allowing the bees to transfer themselves, as follows:—Procure a square of the thin oilcloth (known as American cloth) large enough to cover tops of frames, and cut a piece out of its centre 4 in. square. Set this cloth above the top-bars of the new hive—the frames of which have been previously fitted with full sheets of comb-foundation—and on a fine day, as soon as convenient, lift the skep from its floor-board and set it on the cloth already mentioned as being placed above top-bars of the new hive, and have its entrance closed; then pack as warmly as possible the part of cloth not covered by the skep, so as to conserve the warmth of the hive below, and leave it so. The bees will pass out by the ordinary entrance to the frame-hive. When the skep gets well filled with bees and room is needed for egg-laying, the bees and queen will take possession of the lower hive and build out the comb-foundation for breeding in without further trouble to the bee-keeper. This is the best and safest method of transferring. Bear in mind, however, that the new hive must be placed on the stand now occupied by the skep, and must be set level so that the comb-foundation hangs square and true in the frames.

[2004] *Removing Winter Packing—Giving Early Surplus-Room.*—1. Kindly inform me, as a novice, when winter packing may with safety be removed from a hive? I find no specified time in the *Guide Book*. 2. What harm, if any, can arise from at once placing a section-rack on a hive—now that the fruit trees are beginning to blossom—so that the bees may store the honey therein as soon as they require the room, instead of crowding the brood-nest below? This would give the queen more empty cells in which to deposit her eggs and avoid the possibility of the bees swarming, would it not?—F. E. P., *Haverstock Hill, April* 3.

REPLY.—Winter packing should only be removed when weather is so warm that "cooling" the hive is an advantage. For some weeks to come, however, the object will be to add to warmth of brood-chambers so that no packing must be removed. 2. For the same reason it is not advisable to give surplus room until brood-chambers are well filled with bees, and honey is coming in, which will not be just yet.

Echoes from the Hives.

Chichester, April 1.—The past month has not been very favourable for bees in the south; cold winds, frosty nights, and snows being the rule. Only on two or three days during the month have they carried pollen in any quantity. I expect we shall have to feed if strong stocks are to be kept going. Palm-willows are about gone (or, rather, the blossom has), so we are looking forward to fruit and hawthorn bloom, of which in this district there is a considerable quantity. To-day the weather has been glorious.—JOHN DANIELS.

WEATHER REPORTS.

WESTBOURNE, SUSSEX,

MARCH, 1898.

Rainfall, ·80 in.
Heaviest fall, ·18 in., on 1st.
Rain fell on 13 days.
Below average, 1·39 in.
Maximum Temperature, 56°, on 18th.
Minimum Temperature, 23°, on 13th.
Minimum on Grass, 19°, on 13th.
Frosty Nights, 24.
Sunshine, 108·5 hrs.
Brightest day, 2nd, 9·5 hours.
Sunless Days, 7.
Below average, 51·3 hours.
Mean Maximum, 44·4°.
Mean Minimum 30·8°.
Mean Temperature, 37·6°.
Below average, 3·9°.
Maximum Barometer, 30·27°, on 21st.
Minimum Barometer, 29·20°, on 26th.

L. B. BIRKETT.

FENLOE, NEWMARKET-ON-FERGUS, CO. CLARE, IRELAND.

MARCH, 1898.

Rainfall, 1·20 in.
Heaviest fall, ·46 in. on 18th.
Rain fell on 20 days.
Maximum Temperature, 57°.
Minimum Temperature, 24°.
Frosty nights, 18.
Mean Maximum Temperature, 50·93°.
Mean Minimum Temperature, 33·60°.
Maximum Barometer, 30·24.
Minimum Barometer, 29·41.

S. C. HICKMAN (Major.)

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

A. B. (Brightlingsea).—Comb contains nothing worse than old pollen.

P. J. N. (Hendon).—*Transferring Bees*.—On no account should bees be transferred so early as the 8th inst. with present weather conditions. Other queries will be replied to next week.

A. R. R. (Fyfield).—*Careless Bee-keeping*.—Fortunately the comb "thrown in ditch" is not affected with disease, though pollen-clogged, and infested with wax-moth.

*** *We regret that pressure on our space compels us to again hold over many letters and queries till next week.*

Special Prepaid Advertisements.

Twelve words, Sixpence; for every additional Three words or under, One Penny.

BEES, Foundation or Sections WANTED, in exchange for a few pairs girls', boys' school boots, button and lace, levant, new, sizes 10, 11, 12, 13, and 2 and 3. Mrs. TURNER, Walton-on-Thames.

FOR SALE, three strong STOCKS of BEES, in bar-framed Hives; and Extractor, in good condition; also drawn-out Combs, in shallow frames. Address, BEE, Tichbourne Down, Alresford, Hants.

FOR SALE, nine healthy strong STOCKS of BEES, on five frames. Free on rail, 14s. each. J. TREBBLE, Romansleigh, South Molton.

FOR SALE, 1 cwt. first prize clover HONEY, at 6d. per lb. J. TREBBLE, Romansleigh, South Molton.

20 HEALTHY STOCKS. Young Queens. Standard Frames. Cheap. Rev. JARVIS, Coleford, Glos. U 34

FOR SALE, three good STOCKS BEES, in bar-framed hives. Apply, R. DOVER, High Leigh, Hoddesdon. U 49

WANTED, a MAN in Joiner's shop, for Bee Appliance trade. J. H. HOWARD, Holme, Peterboro'.

QUEEN FOR SALE (reared 1897). Address, GAMBRILL, Tailor, Bagshot-road, Ascot, Berks. U 66

FINEST ENGLISH HONEY. Quarter cwts. 6½d. per lb. Tins free. Sample 2d. Deposit system. RICHARD DUTTON, Terling, Witham, Essex. U

CLOVER SECTIONS, well filled, 5 dozen. Thirty 1 lb. glass bottles Heather Honey. What offers in cash. HORN, Bedale, Yorks. U 61

GOOD HONEY.—About 4 cwt. FOR SALE, in 50-lb. tins. OSWALD PRIME, Cosh Farm, Elmdon, Saffron Walden, Essex. U 64

FOR SALE, SIX strong healthy STOCKS of BEES, in Sandringham Hives, and other Appliances. What offers the lot, or divide. C. DALTON, North Weald, Epping. U 67

FOR SALE, NINE strong STOCKS of well-wintered Bees in bar-frame hives. Also drawn-out combs in shallow frames. Apply JACQUES, Hornington Cross, Rollestone-road, Burton-on-Trent.

FOR SALE, seventeen STOCKS of BEES, in bar-framed hives. Warranted free from foul brood. Purchaser must take them away. Major RAWLINSON, Edendarroch, Barnes Close, Winchester. U 88

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. Neat Patterns. W. WOODLEY, Beedon, Newbury.

BEES, splendid workers, a few SKEPS to part with (foul brood unknown in district), safely packed and put on rail, 13s. 6d. each. G. KNOWLES, Ely, Cambs. U 62

FOR SALE, owing to removal, part of my Apiary, comprising 16 Stocks of Bees in modern bar-framed hives, top bars 15½, self spacing frames, from 25s. each. NESS, Expert, Sproxton Apiary, Helmsley, Yorks. U 68

BEES of my well-known strain, guaranteed healthy. 3 Frame Nuclei 12s. 6d., 6 Frame Stocks 20s., 8 Frame ditto 22s. 6d. Ready for delivery, weather permitting. Orders for Swarms booked now. WHITING, Valley Apiaries, Hundon, Clare, Suffolk. U 32

22ND YEAR, Pure Blacks, Swarms booked now for early delivery in rotation, 10s. 6d., 12s. 6d., 15s.; also Nuclei, for strengthening weak stocks, three frames 9s., four frames 10s. 6d. Packed securely and sent in suitable weather. ALSFORD, Expert, Blandford.

THREE very good WHITE LEGHORN PULLETS, fit for exhibition. Wade's and Cheetham's strains, in full lay, with Dubbed COCKEREL, 35s. lot, or exchange for Bar-Framed Hives, new or clean second-hand, Wells' Jentertained, or any Bee Furniture. J. BARKER, Winton, Kirkby Stephen. U 63

Editorial, Notices, &c.

"ROYAL" SHOW AT BIRMINGHAM.

We call the attention of our readers to the date on which entries close for the above important show. As seen in the announcement on front page, May 1 is the last day for making entries, but bee-keepers have again the same privilege extended to them as formerly, which means that if the season is against early honey gathering, and honey intended for showing connot be staged in consequence, the entry fees will be returned on application to Mr. E. H. Young, Secretary B.B.K.A., to whom all communications relating to the bee-department must be addressed, at 12. Hanover-square, London, W.

TEACHING BEE-KEEPING IN GERMANY.

FREE LECTURES IN ADVANCED APICULTURE.

We have been requested to publish the following announcement in case any reader of the B.B.J. visiting Germany at the date given may desire to avail himself of the opportunity it offers of acquiring some knowledge of German methods of managing bees. [*Eds.*]

FREE LECTURES IN ADVANCED APICULTURE.

The Rev. F. Gerstung will this year, as formerly, deliver a course of lectures—with demonstrations—in advanced apiculture, at his apiary, Ossmanstadt. The course begins on May 31, and concludes on June 4.

The lectures are free, but those attending must provide their own board and lodging.

For full particulars apply to the Rev. F. Gerstung, Ossmanstadt (Thuringia).

WILTS BORDER CO-OPERATIVE B.K.A.

The first annual meeting of the Wilts Border Co-operative Bee-Keepers' Association was held in Neston School, Corsham, on Wednesday evening, the 23rd ult. The objects of the society are, first and foremost, bettering the condition of the cottager by co-operative methods. The report stated that the committee were gratified with the result of the first year's experience of this young and novel society; that the membership had steadily increased; that it was the intention of the committee to open branches in other districts; that they regretted that the negotiations for forming a permanent market for honey fell through, but that they did not despair of establishing one; that the bee and honey show at Neston Park was a success, and they resolved again to offer prizes there. The accounts and report were unanimously adopted, and a hearty vote of thanks accorded to the hon secretary, officers, and committee of the society. Lord Edmond Fitzmaurice, M.P. (Chairman of Wilts County Council), was unanimously re-elected President, and the following Vice-Presidents:—Sir J. Dickson-Poynder, M.P., C.C.; G. P. Fuller, Esq., C.C.; C. E. Hobhouse, Esq., C.C.; E. Story Maskelyne, Esq., C.C.; H. R. N. Pictor, Esq., C.C. Mr. J. W. Spencer, of Atworth, was re-elected hon. secretary and treasurer, with a committee of management, consisting of tried bee-keepers. There was also appointed a general committee of twelve, representing the district.—(*Communicated*).

THE NEW STYLE OF SECTION.

EXPERT OPINION THEREON IN AMERICA.

After the quotations already given in our issues of February 24 and March 10 and 17, we have selected an article from *Gleanings*, in which is embodied what Dr. Miller terms "a triangular conference" between Mr. W. B. Ranson, Mr. E. R. Root (Ed. *Gleanings*), and himself (Dr. Miller), with which to conclude the series of papers by American experts, conveying their respective views regarding the new style section. The three letters comprised in our present quotation are too lengthy for insertion in a single issue; we therefore print below the letter of Mr. Ranson and a portion of Dr. Miller's, and conclude the series of quotations next week with Mr. Roots' letter. We may then safely leave our readers to form their own opinion on the new style of section after a season's practical trial.

Mr. Ranson, addressing himself to Dr. Miller, says:—

"I have for years profited by keeping quiet and practising what other bee-keepers write in the bee-journals, or such of that as seems to be of value to the cause; but now as changes in our fixtures are becoming so great that it is no longer wise to keep silent when the interests of all bee-keepers call us to speak out, I take the liberty to write you this letter.

"Well, what about all this changing in supers and sections? Are they any better than what we have had for years? Is the section-holder better than the T super? With us the latter is infinitely better, and will, I think, remain superior to anything that requires extra pieces of wood between sections and top-bars of brood-frames. Are the tall sections better? If so, why not have them 4¼ by 5, when we could all use them in our standard 4¼ fixtures by simply placing a ring above to get height of super or cases? But 4 by 5, or 3⅝ by 5, or anything except 4¼, breaks up our whole arrangement. What about all this new slat bottom supers and separators changing? Are they any better? Well, for separators I think nothing equals the T super with no slats between sections and top-bars; and with no separators, nothing equals the old-style Heddon case. I run for

fancy comb honey, and have on hand now a lot of the whitest, straightest, and most uniformly filled sections it was ever my pleasure to see, and I took it off the hives last season in old-style Heddon cases with no separators. The honey is filled out within $\frac{1}{8}$ in. of the edges of the sections, and sells readily here to grocers at 13 cents, and to consumers at $16\frac{2}{3}$ cents per 1 lb. section.

"Right here let me say that my bottom board has much to do with combs being built straight in frames and sections (don't laugh, please) as with it the hives stand absolutely level, crosswise and lengthwise, and at the same time the bottom is $\frac{3}{4}$ in. lower at front end. I use a plain flat bottom, with strips nailed one on each side, 1 in. square at front end, and 1 in. by $\frac{1}{4}$ in. at back end; stand hive on this, and I have 1 in. entrance (which I've used for years), the width of hive; and at the rear the frames come within $\frac{1}{4}$ in. of bottom, inviting the bees to the rear when the frames are in easy reach. Now, with all frames and sections absolutely vertical and plumb, both crosswise and lengthwise, and with proper starters, the sections with me are filled nice and straight every time, without the separators. With the bottom as above, with this very large entrance I use a strip and button, one edge of strip cut out large, the other small entrances. I can reverse twenty of those strips, I think, in the same time it would take Messrs. Root and Danzenbaker to lift off the colony and reverse one bottom board, and when I would have accomplished the same end; and, besides, I don't have the flanges running past the front end of the hive on each side of the alighting-board so as to prevent me from sliding queen-traps, guards, or strips across the entrances. I tried some that way, but soon levelled the awkward flanges down smooth with the end of the hive. You see those wedge-shaped strips the hive rests on give the fall for water to run off the bottom, give the large entrance, give the bees a chance to climb on the rear end of brood-frames, and also make the hive level.

"Now, the conclusion I reach from practice is this: The fewer the number of pieces to buy, handle, and clean, the better it is for the bee-keeper; so with the T super and Heddon case; with no separators, and on hives levelled up as aforesaid, and proper starters in sections, I get straight pretty combs and well-filled sections; have no difficulty with crooked combs, and have left out all separators, fences, slat bottoms, section-holders, &c. Whew! what a pile of stuff left out! and the most important of all is, the bees have a supreme hatred for them, and enter sections more readily without them.

"Doctor, you ask about getting bees to clean up unfinished sections. Try placing supers under brood-chambers. I have no trouble that way. It works nicely in early spring to start up brood. I keep over winter quite a lot for that purpose. I have other points, but this letter is now much longer than I intended.

"In closing, let me say that I trust this will not be construed in any sense as being adverse to The A. I. Root Company, for I never had dealings with better people than the Roots, nor have I seen better work than they send out from their factory—it's superb. Their paper also is the cleanest and brightest I read. I wonder if their kind endeavours to give all bee-keepers what they want has caused this fence and section racket?—quite likely. If we should pass an occasional letter, I will give in detail other points, especially comb honey and swarming.

"New River Depot, Va., January 20."

[To the above, Dr. Miller replies:]

"Friend Ranson, the matters discussed in your letter are of such general interest that it may be worth while to take the editor of *Gleanings* into our confidence, and have a triangular conference—especially as he is largely responsible for the changes that you deprecate. I confess that the matter of making such radical changes is a serious one, to be justified only by something so manifestly better that we cannot afford to omit the change. For myself, I shall move somewhat cautiously until satisfied that I should gain enough by the change to recoup me for my loss in throwing away my present stock of supers to the value of $250.

"But don't you think that you are a little unreasonable yourself? Evidently you are inclined to the belief that we should hold on to our old fixtures, and yet in the same breath you speak of changes that you have yourself made, and quite plainly you think that others should make the same changes you have done. So that you are not so much averse to change, providing the change is one that suits *you*. Let me tell you wherein I think you are bad. You've been going on all these years using what you thought was a good thing, keeping it all to yourself, until some one tries to reach the same thing in another way; and then, after some have been to the trouble and expense of making the change, you are ready to say what you ought to have said long ago. But perhaps we'd better not quarrel about that now.

"You ask whether the section-holder was any better than the T super. That depends upon who answers the question. The editor and I are not on speaking terms on that question. He thinks the section-holders better, and wonders why I can't see it. With my knowledge and management of T supers and section-holders, I am very, very sure that the T supers are far and away ahead. And yet it is possible that, if I knew as much as he about the section-holders and their management, I might prefer them. And it is just as possible that, if he knew as well as I how to manage T supers, he might experience a change of mind. I suspect that he thinks I

stand almost alone in preferring T supers. Others, like yourself, go on using them without saying anything, so he doesn't know about them. In some respects you are wise in keeping quiet.

"I don't know enough to answer your question as to whether the tall sections are better. I can hardly say that they look any better to me. But here come witnesses who say they have been using them, and they like them, and, what is more emphatically to the point, they say they can sell them better, and some, at least, say they sell them for a higher price. If only one man said so, or if the followers of one man said so, it might not deserve very much notice; but the use of tall sections seems to have originated independently in more than one place, and all give the same sort of testimony. If any one has tried the tall sections, and has not found them good, he has at least kept very quiet about it. If they are undeniably an improvement, and are to come into use, it seems a fair question to ask, 'Why not give a chance for them in T supers?' Possibly the editor thinks the number of T-super men so small it isn't worth while. (Between you and me I suspect that there are three or four times as many super adherents as he supposes.) But before we come down on him too hard, we'd better first find out whether he will refuse to grant what we ask. For we must remember that the chief business of supply manufacturers is to supply demand. Can we agree upon what we want? If we have a section 5 by 4¼ by 1⅞, it would be too heavy. How would 5 by 4¼ by 1⅞ do? That would give us a section very nearly the same weight as a section 4½ by 4¼ by 1⅞.

(Conclusion next week.)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEES NEAR HOUSES AND ROADS.

CAN THEY BE KEPT WITHOUT CAUSING ANNOYANCE?

[3224.] Referring to the above subject and queries 1927 (p. 79), and 1993 (p. 119), may I be allowed to support your reply to "W. G." —with which I am in full accord—by giving my own experience in the same direction as follows:—

My small bit of garden ground is not more than 30 ft. square, directly fronting the doors of two cottages, the paths to which pass along two sides of my garden; so that the cottages mentioned are only 25 ft. from my ground, and the first one of my row of hives. On the third side of the garden is a very deep pond, along the bank of which my hives have stood for about three and a half years. The fourth side is bounded by one of the main roads of this county, with only a very low hedge, and a few feet of green sward between the hives and the road. In the summer I grow scarlet runners on the two sides of my garden bordered by the paths to the other cottages, to cause the bees to fly higher on those two sides. The great trouble on the third side has been through the bees getting in the water to such an extent that in those stocks directly facing the water it has taken all the brood that one stock could raise to keep them going. The only trouble on the side of my ground bounded by the road has been caused to tradesmen, who when calling at the two cottages, frequently drive their traps beyond the gate and stop, leaving the horse directly in the bees' line of flight; consequently, the road being higher than my garden, the bees have either to go round the horse, or climb over it, as it were. But as horses are usually warm and perspiring in the summer, bees are not long before they set about stinging in earnest if the animals are placed directly in their line of flight, and I have several times found it necessary to lead a horse out of harm's way at such times. My neighbours, however, have seldom been stung, and when they have, it has been either through their own carelessness or obstinacy.

Having to pass through the gardens of two of my neighbours in order to reach mine, it requires some tact to prevent trouble, especially at the close of the season. In all such circumstances it is therefore necessary to consider one's neighbours in every possible way. Another disadvantage in having the apiary placed near someone else's dwelling is that neighbours are apt to regard every box carried from the apiary as full of honey, and this starts them a-wondering what a tremendous lot of honey you must have! I will add, however, that, according to my experience, a little honey judiciously distributed among the neighbours works wonders in favour of the bees.—WM. LOVEDAY, *Hatfield Heath, Harlow.*

A NON-SWARMING HIVE, NOT SIMMINS'S "CONQUEROR."

[3225.] Referring to the letter of Mr. Samuel Simmins, in last week's B.B.J., (3216, p. 134), I am puzzled to understand how he makes out that the model hive which I exhibited at the conversazione of the B.B.K.A., last month, is a copy of the "Conqueror" hive? Mr. Simmins states that "there is no need to add complications by providing an additional entrance." But in my hive another entrance is absolutely necessary, because the operator has no need to interfere with the

stock box, and has no hanging chambers to withdraw. He just works it the same as a simple frame hive, with all parts interchangeable. The non-swarming idea being secured by a crate or box of shallow frames, which can be placed under the brood nest, as nadiring is done on the Stewarton principle, but not at all copying the "Conqueror," as will soon be seen on comparing that hive with mine.

If Mr. Simmins would like to know where I got my ideas from, I may say that some years ago, when I was employed at Messrs. Neighbour's bee-farm, we had some stocks of Carniolan bees, which displayed all the known propensity of that race for persistent swarming. My then fellow apiarist on the farm, the late E. Marshall, suggested that we should try and stop the continual swarming of these Carniolans by placing under the brood nests empty section racks. This we did with such effects that the bees got over the swarming impulse, and in a day or two commenced to work in sections above at brood nest.—J. S. Greenhill, *Wimbledon.*

METAL DIVIDERS FOR SECTIONS.

[3226.] I was much surprised to see the remark made by the chairman, at the Conversazione, mentioned last week on page 112, B.B.J., about metal separators. I thought it was an acknowledged fact that the metal separators were in every way superior to wooden ones. I have used both, and have long since discarded the wooden ones, both thin and thick, having found that the moisture of the hive made them bulge and twist, and so spoil the face of sections. I have yet to find a single section spoiled in this way by a metal divider, and have had a good deal of experience with them, for I work nearly thirty hives every year for section honey. I take care that the metal is not too thin, and is placed properly in the section rack. I am not up enough in statistics to know at what degree of heat the metal dividers will expand, but I do not think that insect heat or even animal heat is high enough to affect metal. I shall try the new no-bee-way sections, like many others, this year, but I shall avoid wood dividers, and from what I have seen of Garners' registered divider, those will be good enough for me.—R. Godson, *Hon. Sec., Lincs. B.K.A., Tothill.*

NEW *VERSUS* OLD FOUNDATIONS.

[3227.] According to Doolittle (which, as genial Dr. Miller says in *Gleanings*, is about equivalent to saying "according to fact")—*vide* B.B.J. December 28, 1893, p. 512—old foundation is as good as new. May I, for the benefit of those who do not possess the issue of the journal referred to, quote a portion of his article? Doolittle says:—. . . "Don't listen to those who tell you that the bees will not work the foundation only as it is new from the mill, for in an experience of years I cannot see any difference between foundation fresh from the mill and that which has been stored away in the frames for years, as regards the bees accepting it. To be sure, to me this old foundation looks cold and hard, but when next June arrives, and I lift the same "hard" sheet from the bees, after it has been in the hive an hour, I find it all soft and pliable, and just as good as new. . . ."

If I can, without presumption, corroborate so eminent an authority, I do so with pleasure, for the super foundation I used in sections last year had been in my possession five years, and not a bit was refused. I used it in full, two-thirds, half, and quarter sheets, and in triangular starters, and the only difference distinguishable in the finished sections was that beyond the limits of the foundation all drone-comb was built. This leads me to inquire why we don't always use drone-foundation in supers, and save the bees some labour in cell-building?—"Beecroft," *Staines.*

HANTS AS A BEE-COUNTY.

[3228.] Having been a reader of your interesting and useful journal for some time, I am going to ask your advice on one question; but before doing so I would like to say a word on this part as a bee-district, as I consider it one of the finest parts in the country for bees. It is close to the famous Long Valley, with acres upon acres of heather and gorse (and sand, as those who go to witness the big reviews of the army can testify), while every farmer grows several acres of clover or trefoil. Being a milk-producing locality, the majority of the farms are mainly permanent pasture land, divided by boundaries of good old-fashioned banks, covered with blackberry and whitethorn many years old. Almost all the farmers around keep bees in skeps; "because," as one farmer told me, "they are no trouble." They hive the swarms in skeps, and in autumn pick the heavy ones out for "putting down" with brimstone. Passengers by rail from London to Basingstoke cannot fail to note the alternate stretches of common or heather alternated with pasture and moorland, and intersected by lanes smothered in Dutch clover. The old-fashioned houses all have large gardens full of fruit-trees of various kinds. But I must leave off description, and come to my questions without taking up more space. I wish to ask—should sections stand direct on the excluder zinc or be raised ¼ in. to ⅜ in. above the zinc? I have made a rack to hold twenty-one sections, and, if space is to be allowed, could I nail four strips of wood on bottom of rack to prevent sections from slipping down on zinc when full? Every week I see answers to correspondents, some of which I can apply to myself, and I cut such out for future use, but I have never seen anything about the above.—Grateful, *Farnborough, Hants.*

[The rack is so constructed that the sections

stand in three rows (seven in each row) and raised ⅝ in. above the excluder zinc. To secure this arrangement, two strips of wood ⅝ in. thick are nailed to lower edge of rack, and these strips support the centre row and one edge of each of the outer rows of section, so that the bees have a free passage way beneath them. It would, of course, be very advantageous to see a properly-made rack before trying a home-made one; or, failing this, to have a copy of "Guide Book," wherein the construction of section-racks and hives are explained and illustrated.—EDS.]

EXAMINING BROOD-NESTS IN SPRING.

[3229.] I notice that many of your correspondents seem to believe in not disturbing brood-nests until well into April. I hold that as much harm is done by leaving them alone as by thoroughly overhauling at the end of March, provided the weather is favourable.

As an instance of this, I will give my own case:—Last year I had seven hives to look after, and four of them were affected with foul brood. I burnt two of these outright. Of the other two I saved the bees and outside of hives, burnt the rest. The hives were scrubbed with boiling water and painted outside and inside. I then filled with full sheets of foundation, returned the bees, and fed with medicated syrup. They were nice strong lots by the autumn, and I was congratulating myself on having got rid of the disease, as I saw no signs of it then, but on March 20 I examined these two hives thoroughly and found foul brood in them both. I started to feed at once with medicated syrup, and one seems to be getting better, but I doubt I will have to burn the other, or change the queen after a while. This is rather hard lines after my work last season. However, one is always learning, though we have to pay for it.

Now, if I had not looked at these hives until the middle of April, what chance would there have been of effecting a cure? for the longer you let the disease run the stronger a hold it has. I may also add that I have joined queenless stocks to others in the end of March with good results, without the use of flour or syrup, but I would not advise any beginner to try it.—SCOT, *Sussex, April* 11.

CANE-SUGAR FOR BEE FOOD.

[3230.] I am glad to note that our American friend, Dr. C. C. Miller, of Marengo, Ill. (3187, p. 103)—who, to my knowledge, has been an occasional contributor to the pages of our journal for a good many years—is supporting the use of cane-sugar for bee food. It seems to me that America, where the bees are confined in cellars from four to five months, is the place of all others to make definite experiments with the use of beet-sugars. Our bees here may be said to know nothing of "zero" temperatures. I won't say fortunately, for it was too much the other way this winter. To my knowledge there have been cases of dysentery in this county during the past winter, though bees were able to take flights almost daily up to the end of January, showing either that cheap beet-sugars are often used in preparing bee food, or that, if cane-sugar is used, the food is very badly prepared. I always make my bee food from cane-sugar, besides feeding-up a number of stocks for procrastinating bee-keepers in order to save them, and have not had a single case of dysentery. As we have under consideration the use of cane-sugar, I might add that the Australian correspondent of the *Rural World* says, in the current number of that paper: "Queensland should have every reason to remember the harvests of the present summer. The north furnishes material for congratulation in its accounts of the rich prospects from the sugar fields in the Mackay district. Should nothing detrimental occur, the year's crop will be a 'record' one, but it is feared there will be some difficulty in obtaining the necessary labour to cut it."—WM. LOVEDAY, *Hatfield Heath, Harlow, Essex.*

BLACK VARNISH FOR HIVES.

[3231.] I believe the article required by your correspondent in B.J. (page 60) to be the common black varnish sold at most oilshops and ironmongers at or about 1s. a gallon. Having used this for years for painting hives, I can recommend it. It dries with a gloss almost as soon as applied. Locally it is made from coal tar and naphtha, and, I believe, is as good a disinfectant as most sold. Every spring I clean and black-varnish the floor-boards of all my hives, and by starting with a clean floor-board, I have exchanged, cleaned, and black-varnished several the same day. I have also used it on the inside of hive bodies and hived stocks and swarms in the same day, so there is no objection on account of the smell.—R. C. SALMON, *Hardwicke, near Gloucester.*

OUR WILD BEES.

(*Continued from page* 138.)

[3232.] In the flower-garden quite a number of wild bees will now be about during the warmer hours of the day *Podalirius pilipis* still courses up and down his bed, but his brown attire is getting shabby, his wings, too, are rather battered, making him less impetuous and buoyant on the wing, while the black females are decidedly more abundant and less shy than they were a fortnight ago. Some of the latter, indeed, have already settled down in life to the matronly task of collecting pollen on their posterior tibiæ. Each bee visits systematically the flowers of one particular species of plant that yield the desired material better, perhaps, to their thinking, than any other. In

doing this, however, she betrays signs of impatience, which increase, as we watch her, until after paying a few hurried calls, which seem more for leave-taking than for business, away she flies to her nest, there to leave her two pellets of pollen; and these having been satisfactorily deposited, she returns to gather a fresh supply.

Shuckard says that these bees are gregarious in their habits of nesting. They generally make their burrows in the ground. For several years I have noticed a female of this species making journeys backwards and forwards through a ventilator in the wall of our harness-room, the interior of which has, no doubt, been the home of many successive broods, most likely of the same family, at least on the mother's side. For preventing human, and similar intrusions the ventilator was well chosen, but perhaps mice will some day play sad havoc with the immature bees, when they discover their cradle. Like many other bees that appear in the spring, *Podalirius pilipis* undergoes its final changes the autumn before, and hibernates as a perfect bee, to be aroused into activity by the first rays of the returning sun.

It will be worth our while if we can succeed in tracking a female to her nest, for in that case we might be fortunate enough to find a very singular bee hovering in the vicinity of it, by name *Melecta armata*. We are not likely to mistake this bee on catching sight of it. It is about as long as a *Podalirius*, but with the head and thorax clothed with greyish white hairs, the abdomen bare, black and shining, with white spots of pubescence on either side of each segment. An examination of the mouth parts and wings will bring it, in our table of genera on p. 96, to *Melecta*. This bee, despite its appearance to the contrary, is, in reality, closely related to *Podalirius;* but it has an important difference in structure, and that consists in the absence of any pollen collecting apparatus in the female. The *Melecta* is an inquiline (p. 77), and is hovering round the burrows of the *Podalirius*, in order to cease an opportunity of entering a nest, there to lay its egg on the pellet of pollen that the *Podalirius* has been preparing for her own offspring. The female *Melecta* is armed with a long sting, and is capable of inflicting a painful puncture, as the collector may prove to his discomfort if he wishes. Possibly, her powerful sting is useful to the *Melecta* should she unexpectedly encounter the *Podalirius* before the completion of her nefarious task.

There is another species of *Podalirius*, *P. retusus*, which should be looked for in April and May. It closely resembles *P. pilipis* in appearance, but the male lacks the very long hair on the intermediate tarsi, and in the female the two spines at the apex of the posterior tibiæ are pale, not black as in *P. pilipis*. *P. retusus* is not a rare bee, but I have not found it in the neighbourhood of Dover yet. Our only other species of *Melecta*, *M. luctosa* occurs with it, as an inquiline.

Insects generally will now be leaving the remains of arabis and other early spring blooms in the flower garden to frequent wild ones as they become more plentiful. We shall, however, find the males of several species of *Andrena* in abundance hovering around various kinds of ornamental shrubs, such as aucubas, laurels (really a species of cherry), laurustinus, cypresses, &c., where they are well exposed to the sun's rays, and sheltered from cold winds. These male *Andrenæ* are quite silent on the wing, and we can get a good view of them as they pause at intervals to rest on the leaves and bask in the warm sunshine; the least motion, however, frightens them, and they start up to continue their hovering.

But perhaps, on the whole, the kitchen garden will have most to attract us now in the way of wild bees. Here the gooseberry and currant blossom, also the plum and cherry, are, or soon will be, bursting into bloom. These offer a tempting welcome to all the pollen-collecting genera, so far out, from the big, burley "Bumble-bees" to the little Halicti. In my early days of collecting bees, the fruit garden used to have special attractions for me. There were all these delightful prizes floating about before my eyes on some wall fruit-tree in full blossom; and, being somewhat of an enthusiast, I used to make a dash with feet and net for any good thing I saw—or thought I saw—regardless, for the moment, of carefully-sown beds or tender bloom, with the result that relations between the gardener and myself became a little strained on one or two occasions, when eyes, unknown to me, had been watching my proceedings. I am afraid I soon found that the best time for me to exploit this choice habitat was during the dinner hour, when no eyes could be about, and when, if the impression of a boot did appear by chance in a seed bed, it would be easy to rake it over, and if a bit of blossom did get knocked off accidentally by a sudden sweep of the net, there would be no difficulty in throwing it on to the rubbish heap over the hedge.

Further afield the sloes or black thorn, furze, and dandelions, will be worth searching, chiefly for *Andrenas*, also protected hedgerows, and the willows perhaps still.—F. W. L. SLADEN, *March* 17.

(To be continued.)

Queries and Replies.

[2005.] *Sending Swarms by Parcel Post.*—1. In reference to swarms of bees being now allowed to go by parcel post, do you think it will be a good way of sending them—for the welfare of the bees, I mean? It will be quicker than the ordinary passenger train; but will the same care be taken of them as to ventilation and bumping about? If sent in a light box, a swarm would not exceed the limit

weight of 11 lb. 2. If brood foundation is "wired," is it necessary to have the top bar of frame grooved or slotted with saw? What is the drawback to having a wooden comb guide projecting about $\frac{5}{16}$ in., to which the foundation, after wiring, is made to stick by pressure? It has the advantage that the wax moth cannot get at any wax projecting to the top surface of frame under quilts, and looks a quick way of fixing. 3. Would four large syrup bottles arranged on a feeding stage, with cheese cloth over their mouths, the *wooden* panel they rest on being pierced with many holes, be as effective as an ordinary rapid feeder? It seems to me that by standing the stage I suggest *direct* on the frames, and packed warm over the bottles and round the stage, the bees would feed nicely. I would, of course, put on the usual quilts over feed-hole, but keep the quilts covered, where stage rests, and have a thin board for the bees to walk on, as they would object to the quilts. This latter way would be easier to pack warm.—G. M. S., *Keswick.*

REPLY.—1. We should never advise sending swarms of bees by parcels post; nor do we think that any experienced practical man would think of doing so. Passenger train is the proper conveyance for swarms. The real advantage, so far as bee-keepers, of the new postal arrangement, is being able to send queens with a few bees by letter post for a penny. 2. The proposed "wooden comb guide" will no doubt answer the purpose, but inserting the top edge of a sheet of foundation in the saw-kerf is so much more quickly done, and, moreover, so much safer when done, that we fear the wooden guide will never find favour with those who are well up in bee-management. The wax-moth has no terrors for bee-men who keep only strong colonies. 3. This is another point which only personal trial will decide. The four bottles can no doubt be made to answer the purpose, but, to our mind, not nearly so well as by using a rapid-feeder of a good type. With the latter a stock can be made to take 10 lb. or 12 lb. of food in a single night, while the fixing and filling is done in a very few minutes.

[2006.] *Bees Deserting Hives in Spring.*—I have sent by same post a small box containing a dead queen bee found two days ago with less than twenty dead workers on the floor-board of one of my hives. Could you kindly tell me in your next issue if there is anything perceptible to account for her death? The hive was deserted and empty. The six frames of the hive contain plenty of stores (and they had candy); a few eggs, and a *very* small patch of brood on one comb only; and there is no sign of foul brood. Eggs and brood are white and healthy. A little while ago the hive was plentifully stocked with bees. I am afraid I have incurred the loss through moving them, to fill up the place of another hive, although I have been weeks over the remove, and have carried it out most slowly and carefully, little by little. I begin to believe I have lost several stocks the last few years from the same cause; and that it is most dangerous to move hives until warm weather allows the *bulk* of the bees to fly. Otherwise, they enter the nearest hive to their old quarters, and fill it to overflowing, leaving their own empty.—W. R. N., *April* 4.

REPLY.—There is no doubt whatever that the operation of moving hives by degrees should be done only in flying weather. On the other hand, changing of location in winter, or at seasons when bees are confined to the hive by cold, must be at one move, and care taken to alter the hive entrance, temporarily, as much as possible, so that the change may be noticed by the bees on coming forth for the first time from the new stand.

[2007.] *Wax Moth in Hives—Spring Cleaning.*—When examining one of my hives on March 31, I found some grubs (like enclosed) at the back of the hive, and also on top of the frames. 1. Is it the larval wax moth? and how can I get rid of them? I have some frames taken from the hives last autumn, and they are mouldy where there is any pollen, like the piece enclosed. 2. Will they do to use again if I cut off the mould? They were new combs last season. 3. Some of your correspondents speak of the necessary "spring cleaning." Do they mean cleaning the inside of the hive? If so, do they move the bees, or how do they manage it? I have never seen any one open hives in spring, and I scarcely know what is necessary to be done.—E. P. C., *Evercreech, Bath.*

REPLY.—1. The "grub" sent is the larva of the wax-moth. Strong stocks of bees properly cared for are rarely troubled with this bee-pest. A stiff brush used over tops of frames will destroy all larvæ come-at-able, but where they have got possession of the combs the latter must be melted down. 2. We should judge that pollen is very plentiful in your district, and, this being so, combs clogged with it—as sample sent—are worse than useless unless the pollen is picked or washed clean out of the cells. 3. Spring cleaning usually means no more than lifting the hive on to a temporary floor-board for five minutes while the permanent one has all the rubbish accumulated during the winter cleaned and brushed off.

[2008.] *Lubricant for Foundation.*—I have become, through my agent, a subscriber in your JOURNAL, for my own sake and for that of my children, who I hope will get both profit and pleasure from this interesting branch of study. We have only one hive as yet, but with the works you issue we may find we can do more than that. My present object is to ask for advice on behalf of a large horticultural establishment here, in which a department has been started for the supply of bee materials. Among other things they prepare foundation

wax, but find it difficult to make it, owing to the fact that *the wax sticks to the rollers*. Can you give any advice on the subject? It is hardly in the list of bee subjects proper, I fear, but you would confer a great favour on a new branch of industry here by giving us a hint. I am in no way connected with the establishment referred to commercially, being only moved by the desire of seeing the rational method of bee-keeping adopted in a country where the wholesale slaughter of bees is still rife, although there is a turn in the tide.—OPORTO, *Portugal, March* 12, 1898.

REPLY.—The most common lubricant used is warm water in which a little soap has been dissolved. This applied to the rollers as often as needed with a hard brush will prevent sticking. We send by book post a copy of B.B.J. from Vol. 20, wherein appears an article on comb foundation, which will be useful to those who are employed in its manufacture.

[2009.]—*Loss of Stocks after Moving.*—I write to ask if you could kindly help me in the following matter:—I am a bee-keeper and have charge of a number of hives for different owners. One gentleman had three stocks, and when I packed them in the autumn they were strong and well supplied with food and covering. During the cold weather at Christmas they were shiftod about fifty yards further up the garden; but to make sure of their flying all right I kept the entrances closed with perforated zinc for several days, and on removing it placed a number of sticks in front of the hives, to ensure their starting afresh. They seemed to be all right and flying right until the late heavy snow, but after that was gone my attention was called to the bees, as they did not seem to be flying. On opening the hives I was surprised to find that two of the bees were dead; only a comparatively small number of bees being left in the hive (all dead). The other one had about a couple of hundred bees and the queen alive, which I took home and placed in a small hive and put on the hot-water pipes in a greenhouse, where I shall try and get them in good order again. In two of the hives there were two frames of brood, mostly sealed, and all had plenty of food. Could you kindly give any likely explanation of their dying like this? My own idea is that the bees were tempted out by the bright sunshine and the glare of the snow, and while outside were killed by the bitter cold wind that prevailed, and that owing to their numbers being thus decreased they were not sufficiently numerous to keep up the heat of the hive during the severe frosts that followed. Previous to the snow the weather was sufficiently warm for the bees to fly, and they had access to a quantity of crocus; in fact, I found a small quantity of new honey in two of them.—A BEE-KEEPER, *Yeovil.*

REPLY.—We rather fear the removal of the hives fifty yards from original stands has been made faulty by closing entrances and so caused the mishap. On no other grounds can the loss of two out of three good stocks be accounted for under the circumstances.

[2010.] *Stoppage of Breeding in Spring.*—I have a hive with six frames well covered with bees. On April 2 there were two frames crammed with sealed brood. To-day there is not a single egg or young grub to be seen, yet I quite distinctly saw the queen parading the combs. Can you suggest any probable cause for the lack of brood? This lot was driven last August.—D. G., *Ilminster, April* 8.

REPLY.—According to dates and particulars given, the queen must have ceased ovipositing for eight or nine days prior to the 2nd inst. if all the brood seen on that day was sealed over. We may suggest such causes as accidental rupture or injury of queen when lifting out frames, &c., or, of course, it may be that the change for the worse in weather at the time would stop breeding, but if the stoppage is so complete as stated it points to worse causes of which we cannot judge at a distance. Examine combs again now that weather is warmer. It may be that the queen has recommenced egg-laying.

[2011.] *Utilising Weak Lots of Bees in Spring.*—I have four colonies of bees to which I last September united four driven lots to strengthen them. Of these hives two are now in good condition with plenty of brood; the third barely covers three frames, and although they have a queen, there is no brood up to the present. In No. 4 the bees cover four frames, but, so far as I can discover, there is neither brood or queen. Nos. 3 and 4 gather very little pollen, while Nos. 1 and 2 bring in very plentifully. I have been feeding the two weak lots for a fortnight past. 1. Do you advise my uniting No. 4 to No. 3, or ought I to wait a little longer, as I am not very quick in finding the queen? 2. Would it be possible to let Nos. 3 and 4 run on as they are and give a queen-cell to No. 4 if found to be queenless, or should I unite the bees to the good stocks? 3. When queen-raising, would the lower part of one frame be sufficient for drone comb (the "Guide-Book" says "insert drone comb in centre of brood-nest"), or does it mean a *full sheet* of drone comb?—C. H., *Cornwall, April* 9.

REPLY.—1. Yes, unite the bees, and at once. If the queen of No. 3 is worth anything at all, the addition of bees from No. 4 will start her off egg laying. 2. The weak lots will do little good singly or as nuclei, and we should not advise uniting them to the prospering stocks. 3. It is very much better to use a comb the central part of which is furnished with drone cells, when raising early drones for the purpose referred to. In fact, to have only a few drone cells on lower edge of the comb would probably not secure the object aimed at.

[2012.] *A Beginner's Anxieties.*—As a constant reader of your journal, I have been interested in reading Mr. H. W. Brice's

articles on how to achieve success in bee-keeping. Being a novice, I am tryirg to gain all the information I can, it is very easy to read, but not so easy to practise. However, in the article on "Handling Bees," I can readily see my errors in being in too much of a hurry and flustering about. Last year, I went to the show at Reading, but was disappointed in finding that no bee-demonstrations took place on the first day. However, I got in touch with the lecturer, and he very kindly showed me a queen bee which I had not seen before. I also gained from him some good practical hints. But I should like to belong to a society and be able to attend some of the meetings and lectures. Is there an association for Middlesex, and who is the secretary? I have four stocks of bees, all in good condition, and am feeding them with candy (pea-flour mixed in it); the skeps, of which I have two, seem the strongest.—NOVICE, *Ashford, Middlesex.*

REPLY.—The hon. sec. of the Middlesex B.K.A. is Major Fair, 11, Anlaby-road, Teddington.

Echoes from the Hives.

Lancaster, Good Friday, April 8.—As two of the hives at our farm here happened to get accidentally upset by sheep, I examined them to find out their condition, and found in one, nine seams of bees with brood in all stages in five of the combs. In the other there were six seams, and brood on three combs. These were the only hives, so far, disturbed this year. The rest look strong and healthy. Have not lost a stock during past winter.—W. L.

CAN BEES TALK?

Following upon a recent discussion among naturalists on the question whether or not bees can talk with each other, the *Daily Telegraph*, in an interesting article on the subject, —which we have slightly altered in a few minor details (hardly worth calling errors) known only to the purely technical reader—says:—

Those best informed on the subject are, we gather, inclined to regard it as perfectly possible. Such a view would, perhaps, astonish many minds not familiar with these and others of the lower creatures by daily observation. Yet the more people live in close notice of animals and insects, the less inclined they will feel to draw that very difficult line which divides instinct from reason, or to set any hard and fast limit to the wonders of nature. In fact, the very word "lower" becomes sometimes an insult, a positive affront to the wonderful life about us, which even proud man himself has scarcely a right to offer. There could, for instance, be nothing well conceived humbler than the earthworm. Until the illustrious Darwin took up the subject of that despised being, no one comprehended the vastness of man's debt to this poor, ugly, trampled creature. The numberless millions of that obscure tribe, none the less, have created all the loam and all the arable land of the whole globe, passing through their bodies the fallen leaves and decaying vegetable matter, and by their single sphere of labour in this respect rendering cultivation and harvests possible. When we tread on that worm we destroy an agricultural labourer of the most respectable class. To those eternal and wide-spread toils of the creeping friend of men we owe the woods, the meadows, and the flowers. This is, of course, only an example of the importance, not of the faculties of the lower creatures. Nevertheless, even worms communicate sufficiently to have and to observe their seasons of love; and bees are so much higher in the scale of life, and so richly gifted in all details of their work, and so sociable in their habits, that it would not be at all a safe thing to say they possess no means of intercourse. Certainly no skilful and watchful bee-master would ever venture upon such an assertion. He knows very well how the sounds in the hive and those produced by individual bees vary from time to time, and in a manner which appears to convey, occasionally at all events, mutual information. A wasp or a strange bee entering a hive without permission seems mighty quick to hear something not very much to its advantage, and when two or three bees have found a good source of honey, how on earth do all the others know which path to take through the trackless air, except by some friendly buzz or wing-hint? Now the bee-masters tell us that there is surely one particular moment in the history of the hive when something very much like actual language appears to be obviously employed. It is when the young queen bee is nearly ready to hatch out from the cell in which the larval stage of its existence has been passed. She then begins to utter a series of faint staccato, piping noises, quite different from the lower-toned note uttered after she has issued from the cell, when the sound becomes altered to the longer "p-e-e-p-peep-peep" with which she answers the shriller and shorter call of her still unhatched royal sisters. How this piping cry, or call, or signal is produced nobody understands. The major portion of the sounds in a hive is of course caused by the vibration, more or less rapidly, of the wings of the bees. But whoever has examined the delicate machinery with which the grasshopper makes his chirp would not be surprised to find that the queen bee had also some peculiar contrivances by which to deliver what may be called the royal speech on the one or two great and signal occasions of her exemplary life.

We should, however, confine the subject in the boundary of far too close a fancy if it were imagined that sound was the only way

in which speech and intercourse may pass among these humble creatures. Human beings naturally gather up that idea by living themselves in an atmosphere of which they agitate the waves for objects of mutual communication. No scientific bee or highly-educated ant, if such creatures were possible, seeing and hearing men and women talk to each other, would dream that they could equally well exchange thoughts by making marks upon paper, or send their messages of love and business by seas and lands through a quivering wire. Nay, if report is to be believed, we are soon to be able to transmit at a flash over long distances a face, a map, a plan, a picture, a whole page of a newspaper, or an actual scene. As therefore those lower creatures, if they indeed could hear us speak, would have no notion of how we make the air-waves into words, and still less grasp knowledge of any subtler form among human intercourse, so it is not quite safe for man to think and call all these strange families of the silent world alike dumb or to despise them for being free of grammars and dictionaries. As a matter of fact, it is obvious that some power of mutual communication assuredly come to all creatures that live in societies. Truly it would be more desirable to learn what bees talk about, rather than to discuss the problem whether they talk at all. The views of bees upon the purposes and colours of flowers, upon the moral duties of frugality and loyalty, and as to the real meaning and loveliness of a rose would be well worth hearing. Of this much we may be all assured, that the little things of the world evade our knowledge as much, and are quite as marvellous, as the very largest and highest.

HONEY IMPORTS.

An account showing the value of honey imported into the United Kingdom during the month of March, 1898, £2,584.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

H. A. L. (Norfolk).—*Extracting Old Honey from Combs.*—If the honey in super filled last year is granulated, the only course is to cut the combs up, put them in an earthenware vessel, and insert the latter in a pan of water heated to about 150 deg. Fahr. Raise the pot holding the combs up so that the water may entirely surround it. When comb and honey are thoroughly melted, the liquid wax will rise to the surface and may be lifted off in a cake when cold.

G. M. S. (Keswick).—*Wiring Frames.*—1. In Mr. Garner's plan of "wiring," mentioned on page 122, two stretches of the wire run parallel with top bar of frame, the other two running diagonally in opposite directions and crossing each other in centre of frame. This is a better arrangement than four horizontal wires. 2. The Barnet-Taylor comb leveller is described in *Gleanings*. 3. It is not advisable, as a rule, to make large quantities of syrup for storing away. Better make it more often, and give it fresh, as being more wholesome for the bees. At same time, syrup made according to the usual recipe will take no harm by being kept in tin vessels.

QUEEN (Co. Kilkenny).—*Bee Associations.*—1. You would derive more direct help in selling honey by joining the Irish B.K.A. than the "British," the functions of the latter body being more exclusively connected with the general advancement of bee-keeping than affording direct personal help to its members. 2. We cannot inform you where the springs for making Porter bee-escapes may be purchased.

A. B. C. (Walton-on-Naze).—*Sending Bees by Rail.*—If the stock of bees described as "a swarm placed last year in a box, 12 in. by 12 in. by 14 in.," is a simple box without frames, it must be dealt with just as a straw skep similarly occupied. In other words, it must be inverted after lifting it off its floor-board and—while the bees are kept down with a little smoke—have a covering of very coarse canvas or cheese-cloth, securely tied or nailed over it to prevent a single bee escaping. The box must have a strong rope to carry it by, and travel bottom upward. To keep the combs steady wads of paper may be pushed between them. We need hardly, however, say that if a box of live bees is to be entrusted to the many risks which attend parcels by rail they should be packed by some one who has had some experience of such jobs.

Special Prepaid Advertisements.

Twelve words, Sixpence: for every additional Three words or under, One Penny.

FOR SALE, TWELVE STOCKS of BEES, Ten in bar-frame hives, in good condition, with supers having fully drawn-out combs, 25s. each. Two in skeps, 10s. each. Guaranteed healthy. W. E. CHESTER, Ryton-on-Dunsmore, Coventry. U 77

STOCKS in skeps, packed in safe travelling cases, 15s. each. Stocks on 10 frames, 25s., packing included. Guaranteed healthy. SALMON, Bee Expert, Hardwicke, Gloucester. U 78

BEES. Mr. H. LINSTEAD, Garboldisham, Thetford, Norfolk, can SPARE strong healthy STOCKS in straw hives, in lots of from 1 to 40. Correspondence invited. U 79

FOR SALE, owing to removal, part of my Apiary, comprising 16 Stocks of Bees in modern bar-framed hives, top bars 15½, self spacing frames, from 25s. each. NESS, Expert, Sproxton Apiary, Helmsley, Yorks. U 68

BEES of my well-known strain, guaranteed healthy. 3 Frame Nuclei 12s. 6d., 6 Frame Stocks 20s., 8 Frame ditto 22s. 6d. Ready for delivery, weather permitting. Orders for Swarms booked now. WHITING, Valley Apiaries, Hundon, Clare, Suffolk.

22ND YEAR, Pure Blacks, Swarms booked now for early delivery in rotation, 10s. 6d., 12s. 6d., 15s.; also Nuclei, for strengthening weak stocks, three frames 9s., four frames 10s. 6d. Packed securely and sent in suitable weather. ALSFORD, Expert, Blandford

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—After long—and, we fear, not very patient—waiting for a favourable change in the weather, it has come, and amidst the genial warmth of bright spring sunshine, bees and bee-keepers are now rousing up to real earnest work. None but the earliest fruit trees bloomed during the several cold weeks in which bees were kept indoors, and thus prevented from working on them; now, however, the fruit orchards are everywhere making a splendid show of bloom, which, instead of "wasting its sweetness," so far as the bees are concerned, is yielding a plentiful supply of honey. With the wealth of bloom seen in all our southern fruit districts, it should go without saying that filled sections of 1898 honey will be less conspicuous by their absence at the early shows of the coming season than is usually the case in this country.

EARLY SHOWS.—The mention of early shows reminds us that entries for the "Royal," held at Birmingham in June next, should be posted not later than Saturday, the 30th inst. We are also glad to notice that the special privilege is again accorded to bee-keepers, of having their entry fees for honey of the current year returnable if the season be so adverse as to prevent them from staging intended exhibits. This fact, along with the present promise of new honey in good time for the show, should ensure a full entry for the premier exhibition of the year. We also trust that the hopeful outlook will have an equally beneficial effect on the entries for the important show which takes precedence of the Birmingham meeting in regard to date, viz., the Royal Counties Agricultural Society, at Portsmouth, on June 7 to 10.

ORDERING APPLIANCES.—In view of the inconvenience sometimes experienced by reason of the failure to obtain appliances just when wanted, it may be well to again offer a hint to bee-keepers, about ordering goods beforehand. We are every year the recipients of complaints—some well grounded, and some, let us add, very much the other way—against dealers, for not delivering goods in time. But the awkwardness of this proceeding, from *our* point of view, is that the complaints referred to are in nearly all cases intended for publication; the writers never giving a moment's thought to the very serious injury it would do the individuals concerned, or realising how strong a case may be stated on the other side. We therefore hope to see due consideration shown by both buyers and sellers; but, with regard to the first-named, they should take care to be in good time with their orders. There are tangible signs of a very busy season, and several of our largest manufacturers and dealers are to our knowledge making special preparations for prompt delivery, but the best of intentions may be frustrated if customers themselves delay ordering almost till the hour goods are wanted. In a letter just received from the A. I. Root Company of Medina, Mr. Root incidentally writes us to say that although their machines are kept working twenty-two hours out of every twenty-four, they can hardly keep up with orders this year, the demand for bee-goods in the U.S.A. being unprecedented with them, and unless we very much mistake the "omens," there is a busy season before all connected with the bee industry in this country.

THE "ENEMY" AGAIN.—We apply this term to the hereditary foe of bee-keepers, but used in connection with bee-journalism, a more appropriate appellation would be "The editorial *bête noire*." Just as regularly as hives require their spring overhaul—or, when from any suspicious cause an inspection is necessary in spring—so regularly do we begin to receive our perennial dose of "samples" for reporting on. That this should be so is perfectly natural, we admit, because the bees of many colonies may have been perfectly healthy up to the autumn of last year, and have become affected with foul brood through robbing diseased stocks afterwards. We therefore ground our complaint, not because of having to inspect diseased combs at all, but we do protest most strongly against the way in which some "samples" are packed for forwarding. We have over and over again asked that combs sent for our opinion as to disease be packed in an old mustard-tin—or some other of the many valueless tin boxes plentiful in every

household—and that the accompanying letter be put *outside the box*. Consequently, nothing can excuse the absolute carelessness which makes some correspondents send combs to this office so ill-protected from damage in post, that they are unfit to handle and the letters illegible till washed. The other day a sample sent in a slight cardboard-box was in such condition that the whole was promptly burnt without any attempt being made to decipher the contents; the sender, if he reads these lines, will therefore know why no answer appears in print. Who can wonder that foul brood is so difficult to keep in check when some bee-keepers seem to be so incapable either of realising the nature of the disease or of any need for the least care in dealing with it?

Now, having dealt out our annual thrust at careless correspondents, let us hasten to add a line of advice to those who are not careless; but who, as bee-keepers, are the unfortunate victims of culpable carelessness in others. We again hear of refusals to destroy stocks known to be diseased; consequently, in spite of precautions, the bees of well-cared-for hives are found carrying off food from such, and so transmitting the disease germs into healthy colonies, whose owners inquire what they must do? To such we say, when it becomes known beyond doubt that the disease is present at this season, and the bees are strong enough to be worth the effort to build them up into a stock by mid-June, they should be dealt with in the old-fashioned way, by getting them off the diseased combs, burning the latter, and treating the bees as a swarm. The merit of this plan—which is so venerable as to have been known long before the oldest of us was born—is that the source of mischief is destroyed for ever. By burning disease-laden honey, rotting brood, and the combs containing both, the bees get a chance at this season, and if the bee-keeper carries out the work intelligently, bearing in mind all that the season and the new conditions under which the bees being saved labour, the chances of cure are better than at any other time of the year. New honey is coming in, and consequently "robbing" is less rampant than at other times, and all this combines to make the month of May a suitable one for this particular method of dealing with stocks found to be diseased. At the same time, do not let us be misunderstood in saying that under other circumstances we advise no tampering with diseased stocks, but strongly recommend burning outright and without delay. One such case will serve to illustrate our point. We give below a letter from Wales, dated April 8, which reads thus:—

> Is the enclosed specimen of comb affected with foul brood? I went through my twenty hives to-day, and they all seem right except this one. It is one of my strongest lots. We have never had foul brood in this district to my knowledge, but I thought this looked very like it.
>
> If so, would you kindly let me know by post, and also what steps I ought to take so that I can take the matter in hand without delay?

In reply we sent a line by post advising immediate destruction of frames, combs, and bees by burning the lot! To have risked the infection of nineteen healthy stocks of bees for the sake of trying to save one would have been sheer folly. And so we say to any bee-keeper similarly situated, with an apparently prosperous season before us, if a stock is found to be unmistakably diseased among a lot of healthy colonies, it is false economy to risk more evils by trying to cure foul brood at this time of the year. Nor are there any means of avoiding more or less risk when manipulating such stocks under the conditions stated.

STAFFORDSHIRE B.K.A.

ANNUAL MEETING.

The annual meeting of the members of this association was held at the Guildhall on Saturday, April 9, Mr. W. G. Bagnall presiding. The statement of accounts showed that there was a balance in hand of £5 13s. 2d., and that the deficit on the Burton show was £14 14s. 4d. The annual report congratulated the members on the progress of the association, which now numbered 147 members. The report concluded by stating that there was a prospect of a good harvest of honey during the coming year. In his report Mr. R. Cock, the expert of the association, said that twenty-three cases of foul brood had come under his notice, and he was pleased to say that in twenty cases the bees were destroyed. Mr. A. H. Heath was elected president, Mr. W. G. Bagnall vice-president, Mr. E. E. Crisp secretary and treasurer, Mr. E. W. Turner auditor, and Mr. R. Cock expert.—(*Communicated.*)

THE NEW STYLE OF SECTION.

EXPERT OPINION THEREON IN AMERICA.

(*Concluded from page* 143.)

"Your bottom-board has something in it decidedly good, and the fact that the same idea has been quietly used in more than one quarter with great satisfaction for years says much in its favour. It does seem boiled-down nonsense to give the whole hive a forward pitch just for the sake of having the same pitch for the bottom-board or floor, when the floor can have its own pitch independently, and leave the hive level, not only from side to side, but from front to rear. Then, too, it gives us the advantage that may be of real value that the bees are forced to make their way up the sides and rear on their way to the supers. By all means let us have the hive level. It certainly seems that we can have truer combs than with a slanting hive.

"If a perfectly level hive will do away with the necessity for fences and separators of all kinds, then that's a fourfold reason for level hives. But that seems almost too much to believe. Do you mean to say that without separators every one of your sections is built true, with no hollowing or bulging? If you lay a rule across the sections, are there no cases in which the rule would touch the comb? Or do you merely mean that they will do for a home market, with a chance to get rid of bulgers without any careful packing? What makes me just a little more careful in inquiring about this is that, years ago, it was claimed that with Heddon supers, no separators were needed. But others who tried the same thing found that separators were needed, and gradually it has settled down almost into an axiom, that for good shipping it is impossible to get along without separators; and the supposition is that those who thought separators were not needed were more easily satisfied than they ought to have been with their sections.

"The practice of slanting hives forward is so almost universal that probably not a great many could give testimony as to whether separators are needed with level hives. If any have had experience in that direction it is to be hoped that they will give it, no matter on which side. Certainly, if we can get along without separators it will be a great gain.

"I have tried your plan of putting sections under brood-chamber in spring to have them emptied—put hundreds of them under—but it didn't work well with me. The bees didn't empty them up promptly, as I expected, but very slowly; and by the time they were emptied they were darkened and utterly unfit to use. Your management may have been different.—C. C. MILLER, *Marengo, Ill.*

"[I admire the frankness of friend Ranson, and I am glad he has spoken just exactly as he feels. To start with, I can simmer the whole matter down in a nutshell, by saying what we all three know to be true, that it is not possible to please every one. Friend R. and Dr. Miller think there is nothing better than the T super; and I am well aware that there are many other good bee-keepers who think the same thing. If I am correct, the most extensive bee-keeper in the world, Capt. Hetherington, uses the T super; and there are other prominent bee-keepers, such as A. E. Manum and Hon. Geo. E. Hilton, who could not be persuaded to use anything else. On the other hand, there are others who think the T super simply intolerable, in evidence of which I would refer to S. A. Niver's article in our issue for February 1, page 81.

"Our position as supply-dealers and manufacturers is to furnish what bee-keepers call for, and at the same time suggest and introduce improvements that, in our judgment, will be a benefit to the industry as a whole.

"Do not misunderstand us, friend R. When we introduced the fence, we did not expect nor do we now advise bee-keepers to discard their old supers; but if the plain section has merits, it is perfectly evident (if one will follow carefully the printed matter that has been put out in regard to them) that it can be used in the old-style supers; and there are special fences made to fit these old T supers, old section-holders in old supers. Assuming that sections have to be bought every year, the bee-keeper loses nothing by substituting plain sections in place of the old-style bee-ways; and the only added expense is for fences to take the place of old separators which, if made of a thin slice of wood, are probably ready for the kindling-pile if they are ready for anything.

"A part of the expense of the fence can be offset by the saving effected in shipping cases.

"With regard to the tall section, Dr. Miller has covered that point. In addition, I might say we did not introduce the 4 by 5 for the fun of it, but because we knew we were losing a large trade from some bee-keepers who were actually making their own goods, so as to get what they wanted.

"Yes, friend R., a 5 by $4\frac{1}{4}$ section can be used in old-style supers and section-holders, by putting on a rim to make up the extra depth; but it is apparent these 5 by $4\frac{1}{4}$ will hold more than a pound, unless made so thin as to render old section-holders useless, and there, you see, you would be running into the very snag you would have us avoid. We adopted tall sections ($3\frac{7}{8}$ by 5) that could be used in the ordinary eight-frame super by simply adding on a rim and plain slats to support them. The width of $3\frac{7}{8}$ by 5 was fixed upon because five such sections would just fill out the space in the length of an eight-frame super, such as thousands of bee-keepers are now using; and as there is a great demand for sections holding from 12 oz. to 14 oz. of honey, this style of section will fill the bill for a tall section. It is very near the size used by Mr. Morton and Mr. Doolittle. The 4 by 5 is the same thing as the section used by

Captain Hetherington (3⅞ by 5), with the exception that we employ even inches; and these even inches make the section hold an even pound. There are some who want a section that will average as nearly a pound as possible, and this 4 by 5 fills the bill.

"I doubt very much whether the average bee-keeper could dispense with separators, even if he did level up his hives. I say 'average,' because I know the general run of them secure honey that is bulged and uncratable. Several times we have come near deciding that we would absolutely refuse to buy honey unless it had been produced with separators. Now I am not saying that friend Ranson or anybody else cannot produce cratable honey, but a device or system that will work for one might be very unsatisfactory for the masses. For this reason, as Dr. Miller has well said, the Heddon non-separator case did not prove to be popular, and I know it was used by some who were expert bee-keepers,

"With regard to giving better ventilation by the construction of the bottom-board at the entrance, there might be a difference of opinion as to which would be quicker—the manipulation of a reversible bottom-board or a series of movable slats. We selected the Danzenbaker reversible, not that we ourselves would necessarily use it one way at one time of the year and one way at another time, but because we wanted one that could be adapted to the diverse notions of two classes of bee-keepers—one class who insist that the bottom-bars of the frames must come within ⅜ in. of the floor of the hive; and the other class who want plenty of ventilation and a large entrance.

"I am glad this whole question has come up, because when *Gleanings* gets to a point where it will not print or will not listen to the 'other side,' then it will cease to be serving its real purpose. There is at least one point upon which we perhaps all agree, and that is on the value of deep and large entrances. Perhaps friend R. will tell us why deep entrance is better than the shallow one."—Ed. *Gleanings.*]

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[3233.] The past four days have been days of glorious sunshine, with bees working from early morn till dewy eve on the many flowers offering their tempting feast of nectar. With the sun fourteen hours above the horizon and the weather genial, outdoor life becomes attractive to everyone; but only those who have especial attractions centered in some out-of-door industry or occupation can enter into the subject with zest, and appreciate the health-giving pleasure of working in the open air. While those of us whose labours have special pleasures of our own, "among the bees" we gather up fresh strength and brightness, and when we return home at evening, full of buoyant health and animation, relating how favourably the colonies are progressing, who can wonder at us talking of the "blessed bees"? The refreshing rain early in last week has started vegetation, and I noticed the hop clover (trefoil) is in bud, the wild cherries in full bloom, and plum and damson trees are white with blossom. The fields also are dotted with the dandelion in rich profusion, while sycamores and horse-chestnut trees are bursting out, and will be in full bloom before the month is over. These are only the more noticeable sources of bee-forage; the fields contain myriads of little plants or weeds from which the busy bee secures supplies of food, either honey or pollen, and in many cases both.

This spell of genial weather will extend brood-nests considerably, and careful bee-keepers will act according to required circumstances. If perchance a return of cold weather comes for a few days, we must attend to any wants in the way of food promptly. Half-a-pint of thin, warm syrup given in the evening, and seeing that wraps are sufficient to maintain the heat of the colony and keep it going; but where there is abundance of food contract the entrance (if cold) to about 2 in., and leave well alone.

The usual inquiries for queens and swarms of bees in due season show that bee-keepers are waking up again, and that bee-keeping is likely to extend. To all who ask my advice about when and how to start bee-keeping, best style of hive, and best locations, I always advise a good swarm, a good textbook, the B.J. or *Record*, and membership of their county association; with style of hive to suit their own requirements, but insisting on the "Standard"-size frames. The external finish only concerns the fancy or pocket of purchaser, seeing that bees are not particular as to the architectural finish of their home. Given a good strain, a good district, and suitable weather, and they will just pull in the nectar, food fit for the gods!

Queen Bees by Post, at ordinary letter rate, is a just concession of our Postal Authorities, and I trust in the interest of the craft that every package sent out or through the post will be securely packed, according to regulation, or better still, in a properly constructed cage, with compartments for the queen and attendants, and food for the journey. If any improper packing occurs, and damage or mischief follows, there is the possibility of

the privilege being withdrawn as to live bees by post. I believe a mishap of this nature caused considerable trouble to our American brethren a few years ago with the U.S.A. Postal authorities. As to sending *swarms of bees* by Parcels Post, it is of course folly to think of such a thing, when all the railways are competing with the G.P.O. for the dispatch of parcels to all parts of the kingdom. I have many times sent swarms of bees to Scotland by the 7 p.m. passenger train, and advised despatch of bees by the 6 p.m. post same evening, and the bees nearly always arrived before the postal advice. I hope our editors will continue to give the same practical advice you afforded last week—to our Keswick bee-keeping friend, to anyone who may suggest sending swarms of bees by post.

Bees near Roads.—My home apiary is near a main road, and with so large a number of hives immense numbers of bees are continually flying over the road, but we rarely have anyone stung. Sometimes the boys passing to and from school will knock the bees down with their caps, and thus get an occasional sting, which does not signify, as I make a point of laying the blame on those who persist in buffeting the bees. I plant a row of artichokes close to the wall by the roadside, these grow seven or eight feet high (and thus cause the bees to fly high over the heads of passers by) before the bees get troublesome, which usually lasts for a few days in July, just as the honey season closes in this district in ordinary years. —W. Woodley, *Beedon, Newbury.*

NON-SWARMING HIVES.

[3234.] In reference to Mr. Greenhill's further remarks (3,225, page 143) your correspondent will notice that the quotation as given by me in italics on page 134 was taken as being his own description; and my only object in writing was to show that the principle involved in such quotation originated with the "Conqueror" hive, as allowing a *sliding chamber of sections* or frames to be shifted from bottom to top, or otherwise, as the case required, without breaking any glued-joints or at the same time shifting the brood-chamber above it.

Possibly "some years ago" Mr. Greenhill did not know of my non-swarming chamber, and is unaware that a hive exhibited by me at South Kensington in 1878, with a rack of sections under the brood-nest, was awarded a special prize as a new and novel idea. I am, however, glad to notice that, notwithstanding the said quotation, and the distinct reference to a sliding chamber on page 123, that Mr. Greenhill disclaims any attempt at copying the peculiar and original features of my own hive; and as he some two or three years since applied to me for permission to manufacture the "Conqueror" hive for sale, I must conclude that he is fully aware of what those distinctive features consist. But however Mr. Greenhill may wish to disguise his adaptation, it is certain the construction of the Stewarton (to which he refers) did not provide for hanging or sliding chambers; that the said hive had no receptacle placed under the stock for the production of new honey combs; and that the management of that excellent hive did not in any sense provide for starting honey-combs in a lower chamber.

The new honey-combs, from beginning to end, were produced above the stock-chamber, and the only purpose for which any chamber was placed below the existing stock was in one instance, where a second or third swarm would be united over-night and the compartment removed next day; while, on the other hand, when the shallow stock-compartment was not sufficient, another such was added for the sole purpose of extending the brood-nest and brood-combs to the full capacity of the space so provided.

The stock-compartments of this hexagonal hive were 5 in. deep, and all had adjustable entrances, while the supers were 4 in. deep, with no entrance ways from the outside, and these supers were *never* used under the stock. —Samuel Simmins, *Heathfield, April* 16.

WAX EXTRACTING.

THE SOLAR WAX EXTRACTOR.

[3235.] If the subject of Wax Extracting has not become wearisome to your readers, perhaps a few notes following up Herr Schröder's articles on the "Solar Wax Extractor" may be of interest. Last year I was able, with a rather primitive contrivance, to render my cappings and clean bits of comb quite satisfactorily, but could do nothing useful with old combs; this year, profiting by the hints placed at our disposal by Herr Schröder, I have just finished another Solar Extractor, which has to-day, April 18, thoroughly extracted the wax from six old and mouldy brood combs; the wax is dark in colour, as was to be expected, but satisfactory in quantity.

The following notes of temperature will show better than anything the power of the apparatus:—

	Shade.	Sun.	In Extr.	
April 17...	52	72	120	9 30
April 17...	58	81	162	12 30
April 18...	48	68	115	9 30
April 18...	50	74	155	12·0

I found it effective for work from 10.30 to 3 p.m., despite the cool east wind blowing constantly, so in warm summer days it must work well.

Can any one tell me what weight of wax exists in ten average brood combs? the theoretical quantity I want, that I may have a standard to work up to; also what is the specific gravity of good honey?—T. I. Weston, *Great Totham April* 18.

ECONOMY IN BEE-KEEPING.

[3236.] Like "A Cheshire Cottager" (3,199, page 115), in B.B.J. for March 24, I find it

necessary to be economical in my bee-keeping. I go further, and say it is waste of time and material to break up good clean combs every year. Some of my store-combs are from eight to ten years old, and have never had a larva reared in them. They are as clean as new combs, though somewhat discoloured. I have a few new combs built every year, the soiled ones being melted down. With 1-lb. sections, of course, it is quite another thing, but partly built-out sections of comb are, to my mind, valuable stock, and as such are, after being cleaned of honey by the bees, carefully stowed away in the autumn for the following season. Sections containing badly built combs, or the wood of which has had an extra bedaubing of propolis, are broken up, for I have many times regretted using such sections, even for a "bait;" they are almost invariably well filled, but cannot be used for the purpose for which one happens to want a good section. If a bee-keeper has foul brood in his apiary, or knows of a case in his neighbourhood, it is certainly to his own interest to melt down all his surplus combs every autumn. Such a measure may rightly be considered a preventive measure, and there can be no doubt that it will go a long way towards securing to the bees immunity from foul brood.—WM. LOVEDAY, *Hatfield Heath, April* 14.

BEES IN HOLLOW TREES.

[3237.] Kindly allow me, through your columns, to thank *J. P., Stowmarket* (page 132), for giving his advice and experience in driving bees from hollow trees.

There is one thing I should be glad if he would kindly do, that is to answer the second part of my query by saying what time of the year he drove the bees.

In your reply (page 119) you say you are curious to know how a crop of apples can be grown on a tree that is hollow from the ground upwards to nearly 6 ft. of its length. I could show you a number of trees completely hollow and still good bearers. In this district, at least, it is the rule, rather than the exception, for trees of large size and age to be hollow, and are often the best trees to bear. The tree with the bees in it had a fair crop last season, and is again (as well as the orchards in the neighbourhood) looking very promising for the coming season.—R. C. V., *Puckington.*

WINTERING BEES.

[3238.] It may interest some of the readers of the B.B.J. to know how a brother bee-keeper's bees have fared. I recommenced the pursuit last summer with a swarm, afterwards stiffened by a cast and some driven bees, to which I introduced a Ligurian queen. Then with driven bees I made up three more stocks, and so began the winter with four. The Ligurians are in a hive with frames hung at right angles to entrance, while the other three hives have frames hanging parallel thereto. The latter three I wintered on Mr. Simmin's plan, viz., before packing for winter I took away the dummy and drew the frames back, leaving a clear space in front, and two frames were open to the roof. It may be accident, of course, but there can be no mistake that they have come out better than the stock in which this plan was not practicable, and there is no danger of the entrance getting blocked with dead bees. Notwithstanding being open to the roof, one lot had a nice patch of brood in the middle of January, when I took advantage of a very fine day to just part the combs, as I was doubtful about the existence of a queen, for reasons which I cannot enter into.

If any other readers have tried the plan perhaps they will give their experience. In the middle of February the frames were closed up and dummy board inserted, as advised in the plan referred to.—ALPHA, *Hull, April* 15.

[*Vide* query 2016, page 159.—EDS.]

WAX RENDERING.

[3239.] Press of work has prevented me from earlier acknowledging my indebtedness to the numerous correspondents who so kindly have come to my aid in advising as to the best way to render wax. I now gratefully thank them, but will, with your permission, enter more fully into the matter on an early date.—F. E. I. S., *April* 13.

BEE-KEEPING IN DEVON.

HOW I RENDER COMBS INTO WAX.

[3240.] I have kept bees in a small way for more than forty years, and during the last fifteen years, in bar-frame hives, which I make myself. I purchased the first frame hive and have gone on ever since without adopting or even studying the improvements which have been introduced from time to time. Yet I have succeeded fairly well, and have thus avoided a deal of expense which some bee-keepers incur. I wintered five stocks in 1896-7, and have five now; the bees seem pretty strong, judging from appearance, but I have not opened one of the hives this season yet. Last summer I sold 1 cwt. of honey in 1-lb. sections, and 1½ cwt. of run honey, and 10 lb. of beeswax. Honey at 8d., wax at 1s. 6d. A grocer in Bideford took the whole. When there has been a chance in this neighbourhood I have exhibited and taken prizes. This year, however, I have begun to take the B.B.J. and wish to improve myself. Hence my inquiry herein for B.B.J. containing measurements of "W. B. C." hive.

I have read in your pages the complaints of bee-keepers on the trouble of rendering their comb into wax. I will tell you how I proceed —I do not know how I learnt the method. I

make a strong canvas bag, sufficient to contain a good bucketful of combs after the honey has been drained out. I stuff the bag quite full of comb and sew up the opening with twine, I then sew on to top and bottom of bag a strip of wood, some water is then placed in an oval iron pot (about one-third full), and set over the fire. When the water boils, I place the bag of comb in and move it about till all the comb is melted. I next empty the whole into an earthenware pan and get another hand to help me to wring the bag—which can be easily done by handling the strips of wood at the top and bottom of bag—and so force out the wax. Let it stand till cold and there will be a cake of rather coarse wax on the top of water. After breaking up, the wax is melted again in a large jug, and strained through fine butter-muslin into whatever moulds you wish, and when cold it will turn out fit for market. I get through the whole of my wax rendering at one time at the end of the honey season, so there is only one cleaning of the vessels used. I never possessed a honey extractor or a bee smoker. The only things I need to purchase are some sections and a little comb foundation. The sections are fitted with narrow starters fixed on with melted wax; and I make my separators from old tin cans which have contained tomatoes, got from the grocer's. I start the bees on their brood frames with strips of foundation about an inch or an inch and a half wide.

No doubt you will think me a very primitive bee-keeper; but I should not wonder if my credit balance per hive compares favourably with some more advanced hands.—F. W. D., *Bideford, April* 13.

OUR WILD BEES.

(*Continued from page* 146.)

[3241.] A few warm days just now will bring the wild bees out in swarms, and the collector will have plenty to do if he sets his specimens. They will chiefly be *Andrenæ*, and will be found in abundance at the various fruit trees now coming into bloom in the kitchen garden. One species of *Andrena* is sure to attact the attention of beginners. It is one of the prettiest and most distinct species in this large genus, although one of the commonest, in the beginning of April. The following description will enable any one to recognise this bee:—*Andrena fulva*. Female: Black, head clothed with black hair, thorax and abdomen clothed with dense long orange-red hair above, under side and the apex of the abdomen with short black hairs, legs black, with black hairs; length, 13 mm. (eq. $\frac{1}{2}$ in.). The male of *Andrena fulva* is much smaller than the female; the face is clothed with white hairs, and the hairs on the thorax and abdomen are not nearly so bright. It would be hard to make those who are not acquainted with the usual discrepancy in appearance between the males and females of any species of *Andrena* believe that this little bee is really the male of the fine bee described above. A character which helps to separate it from the males of allied species appearing at this time lies in the unusually large head, in which the mandibles are long and well developed, each bearing a sharp tooth near the base on the outside. *Andrena fulva* is very fond of gooseberry bloom, and I have often noticed the males hovering about over freshly dug up soil close by. The females often make their burrows near to one another, and frequently choose the lawn for this purpose, throwing up their tiny heaps of mould close to the edge of the garden path. *Andrena fulva* is a widely distributed bee, being found over the whole of Western Europe. Still, it has not yet been recorded from Scotland or Ireland. When I was at Marseilles on March 3, 1897, the females were already flying.

The collector cannot fail to have netted a few female *Halicti* by this time. *Halictus* is rather a difficult genus to understand; the species are all small, and some of them very closely allied. Fortunately for us, our task is simplified by reason of the fact that only the females are about at present. The character given in the table of genera of the longitudinal ridge on the fifth dorsal abdominal segment is easy to recognise. Our first capture of *Halictus* will probably turn out to be *H. cylindricus*, which is about the commonest of the genus, and often appears quite early in the spring. As *Halicti* go, this is a large species, but it is only 9 mm. (eq. $\frac{1}{3}$ in.) in length. *Halictus cylindricus* (female) is black, and sparingly clothed with short pale brown hair; the head and thorax are closely punctured; the propodeum is rugose and truncate at the apex; the segments of the abdomen have their apical margins pale, the hairs on the abdominal resolving themselves more or less into bands at the apices of the segments; the second and third segments have interrupted bands of white pubescence at the base; legs clothed with golden brown hair; length 9 mm. The *Halicti* are silent on the wing, like the *Andrenæ*, but, unlike the latter, several of the larger *Halicti* are able to penetrate the human skin with their stings, producing an irritating, pricking sensation, which, however, soon passes off.

The life history of the *Halicti* is very similar to that of the *Bombi*, but they differ in being entirely solitary in their habits. The young *Halicti* of both sexes emerge from their cells in August and September. The males perish in the autumn, but the females burrow into the ground to pass the winter in a state of torpor, waking up the following spring to undertake the duties of maternity; and thus to give rise to a fresh generation, which will be on the wing in the autumn of the same year.

(*To be continued.*)

Queries and Replies.

[2013.] *Honey and Increase in One Season.*—I have two strong stocks of bees in skeps, but wish to have a try working with frame-hives. Now, supposing that each skep throws off both a swarm and a cast (which I hope they will, because of my desire to increase as much as possible), I ask:—1. Can I work the swarms and casts (two of each) into four strong stocks before the winter, supposing it is a good season, and I feed them well? 2. If the above works out as desired, will the parent stocks be likely to fill any supers? 3. I intend to drive the bees out of the skeps after the honey-flow is over, and unite the two lots in a frame hive, and feed up to make a fifth stock, unless you tell me a better method? 4. I suppose it would not do to put supers on before the honey-flow, as this would tend to prevent swarming? As a beginner with bees, I should be grateful for your opinion on the above.—North Notts, *Retford, April* 8.

Reply.—1. If you are fortunate enough to secure two early swarms, get the young queens safely mated, and if the season turns out a good one there need be no difficulty in working them into strong stocks as desired; but don't overlook the "ifs" in making your calculations. 2. No, it is unreasonable, as a rule, to expect surplus from a skep that has thrown off two swarms. 3. The wisest course would be to use the bees and young queens from the parent skeps for strengthening the top swarms in the first established frame-hives, as these latter will be all the better for having young queens at their head for next year's work after removing the old ones. 4. No; if you expect too much—in the way of both honey and increase—in one season, disappointment will probably follow.

[2014.] *Remedial Measures against Foul Brood.*—There are a few questions I should like to put with regard to the application of remedies against foul brood. 1. I see in the thirteenth edition of "British Bee-Keepers' Guide Book" (p. 149) Dr. Boutleroff recommends fuminating combs with sulphur; this is again recommended on p. 162. Are the sulphur fumes strong enough to destroy the bacillus alvei? If so, it seems a very simple method, and one would think sufficient without the necessity of washing hive with carbolic acid solution, except in so far as making assurance doubly sure. 2. Combs that have been so fumigated smell afterwards of sulphur, will bees take to them? Would the effect of sulphur be injurious to eggs and brood afterwards reared in them? Or, if honey was stored in such empty combs might the honey be flavoured with sulphur when extracted? 3. If honey was in comb when fumigated, would the honey afterwards be injurious to bees? 4. I have a small iron pond in my garden, in which I have placed slanting pieces of wood for the bees to drink from. Thousands of bees may be seen every day now drinking therefrom. Would it be possible for me to medicate the water by adding salicylic acid solution, or by adding a small quantity of carbolic acid solution? Now that no medicated food is required, it seems to me this might be a way for continuing medicinal treatment. Our neighbourhood is not free from foul brood, and I have difficulty in keeping it out of my apiary. I am, therefore, glad to use all preventive measures that may be likely to keep away the scourge.—M. W. B. O., *Dover, April* 14.

Reply.—1. Since the edition of Guide Book referred to was issued, the chapter on "Foul Brood," besides being considerably extended, has—to quote preface to more recent editions—"been entirely re-written in the light of present-day knowledge," and in it the author states, on page 145, the spores of foul brood "will endure adverse influences of various kinds without injury to their vitality, so far as germinating is concerned." He also states that "even freezing or boiling do not destroy the spores." Chemical re-agents, also, while completely destructive of the bacilli, do not affect the vitality of the spore. 2. If combs are exposed to the air after fumigation, the bees will not object to them. 3. No. 4. To medicate the water at bees' drinking troughs would do no harm, but we hardly think it would do any appreciable good.

[2015.] *Enlarging Brood-nest of Hives.*—1. Could I enlarge the brood-nest of a frame-hive by putting in four or five frames of foundation at a time, as I am leaving home for about a month? I ask this as, if it is not possible to supply the bees with work for a month, I must see about getting some one to come and put in what you will suggest as best. 2. Is it necessary to feed with stimulative food every stock in spring? 3. Is it necessary to have queen-excluder zinc under a box of shallow-frames which has a rack of sections above again? 4. Could I nail a piece over the hive entrance to prevent swarms escaping? 5. Is it a good to smear one's hands with carbolic acid when manipulating bees? 6. I want to make a collection of the different kinds of bees—wild, &c. Can you tell me how I should preserve them? I kill them in a bottle by cyanide of potassium, and set them on a board, but when dead their bodies curl under rather. I should like them to be straight out. Is there any way of preserving the colour?—Tyro.

Reply.—1. Provided there is no alternative, four or five frames fitted with foundation might be placed at one end of hive for bees to take possession of when required, but we should judge it hardly probable that bees only covering five frames now will want five frames within a month. Better arrange for a single frame to be given as wanted. 2. Yes, if stores are short, and no supplies coming in. 3. Yes.

4. No. 5. Not at all necessary, unless bees are diseased. 6. See articles on Wild Bees now appearing in these columns.

[2016.] *Foreign Queens not Breeding.*—From the outward appearances of one Ligurian stock, and also of one Carniolan stock, there were suspicions of queenlessness, and so to-day being bright and warm, the two hives were examined. Honey was plentiful, but bees *very* few in each case. No traces of eggs. The two queens were there, apparently in capital condition. The hives were immediately reduced to the smallest dimensions, frames of bruised honeycomb being given to both, and they had their chaff covers restored. The queens are young. One did her work splendidly in 1897. The other was imported last autumn and inserted into a strong stock after removal of its queen. They went into winter quarters with abundance of bees, food, and coverings. The queens are valued accordingly. Kindly advise what should be done. One Ligurian stock died during the winter. The only other foreign bees I have are the above. All the native blackstocks, including two driven lots, are in the best of order. Can you explain why there should be this difference?—W. H. W., *Haverford West, April* 12.

REPLY.—The only explanation we can offer is that the queens, not being acclimatised, miss the warm spring of their native habitat, and are waiting more temperate weather. This is not an infrequent characteristic of queens from abroad.

[2017.] *Judging of Queenlessness from Outside Hives.*—If I have any success with bees, it will be owing to the good advice I constantly get in the pages of your excellent paper. Your unfailing courtesy in answering questions prompts me to venture again another:—1. I have visited and examined my hives often, but have never had the luck to see a queen bee. Can I be assured she is there when I see the bees running in with pollen? 2. With the bees flying and stores much reduced, can I be wrong in offering them honey outside of the hive, or must their food be candy? 3. Can you tell me how swarms are packed to go from England to this country.—B M., *près Bayonne, France, April* 2.

REPLY.—1. It is usually a sign of a laying queen when pollen is taken in plentifully, but a glance inside hive will disclose whether there is brood or no. 2. Do not give honey outside; feed with honey or syrup on top of hive by means of a slow feeder. 3. In specially-prepared ventilated boxes.

Echoes from the Hives.

Somersham, Hunts, April 16.—Bees playing at "high jinks," pouring in and out of hives in streams; fruit trees in full bloom, and glorious weather. Wind S.E. to S.W., and the sun shining brightly nearly all the day. Just the weather to make the bee-man sing "Oh what a happy place is England." Long may it continue.—R. BROWN.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

P. J. N. (Hendon).—*Measurements of "W. B. C." Hive*—1. The dimensions, with drawings, of the hive appear in B.J. of June 24 and July 1 last year, which may be had from this office for 2½d. in stamps. 2. For membership of your county Association apply to the Hon. Sec, Major Fair, 11, Anlaby-road, Teddington. 3. Honey thinned down with hot water to the consistency of syrup is very suitable as bee-food. 4. Foundation made from dark-coloured wax answers very well for brood-combs.

W. D. (Ilminster).—*Using up Old Honey.*—1. We should use the old honey for vinegar making, for which purpose it will answer quite well. 2. The comb sent is badly affected with foul brood, and should on no account be used again in a hive. Burn it out of sight and harm's way.

AMÉDÉE (Saltburn-by-Sea).—*Feeding Bees in Spring.*—1. If there is plenty of food in the combs it is quite useless feeding the bees. Uncapping the sealed stores at intervals of a few days will answer every purpose. 2. The bees coming out on fine days for a fly about hive entrance are mainly young ones.

H. E. C. B. (Bath)—*Ants in Hives.*—A ready plan of keeping these intruders out is to tie a rag around each hive leg and saturate with turpentine. The nest should be searched out, and have some turpentine or paraffin oil poured into it.

SAXON.—*Bee Flowers.*—1. The contributor to whom you refer is much occupied just now with matters apart from literary work. We are, however, hoping to hear from him again shortly. 2. BEE JOURNALS containing the articles mentioned can always be obtained from this office. 3. The "rush out of hundreds of bees" noticed during recent bright sunshine would be no more than the young bees taking their first fly round the "home" before knowing enough to venture too far away. Such brief "turn outs" are quite common during the middle of a warm day in spring. 4. Name of paper from which the article quoted is stated. All we did was to set the writer straight where his technical knowledge was at fault. 5. Bees never take any notice of roses.

M. J. S.—*Queenlessness in Spring.*—If the stock has lost its queen recently there will be some visible signs of an attempt to raise another. But if—as is probably the case—the stock has been queenless for a long time

the only course – apart from uniting the bees to another stock—is to try them with a comb with eggs and brood from another stock.

INQUIRER (Ireland).—"*Facts Worth Remembering.*"—Our correspondent says: "I send you a cutting from *Answers*, where, under the above heading, I read that 'Honey will turn to wax if left untouched for some years.' Is that so?" In reply, we need hardly inform bee-keepers that the "fact" recorded is entirely fiction.

TYRO.—*Packing Skeps for Transit.*—1. You must, of course, ascertain how the combs run before pushing the supporting skewers through them, and use two "skewers." 2. If a swarm is kept in skep so long as two days before hiving, the bees might have about a quarter of a pint of thin syrup poured over them through the cheese-cloth covering. 3. Yes, if fed, the swarm may be kept three days before hiving. 4. The bees will be all right if put near the vine border.

F. L. Y. (Stamford).—*Wax Moth in Store Combs.*—If badly infested with the larvæ they are only fit for melting down; but if only slightly damaged a little burning sulphur fumes will soon get rid of the moth and its larvæ.

SEARCHER AFTER KNOWLEDGE (Hants).—*Insects in Comb.*—Whatever insect life may have been discerned in comb before posting, there was no trace of such on it reaching us. The fact, however, of a few cells having old pollen in them makes it probable the minute waxy or shiny insect your magnifying glass revealed was the "pollen mite," which is sometimes found in combs containing pollen.

G. H. P. (Bradford).—*Bee-Farming as a Pursuit.*—We never assume the responsibility of giving a definite reply to such a question as you put, viz, "Can bee-farming be made the means of securing a good living; and what amount of capital is required for a start?" So much depends on circumstances that the most we say is only very few persons in this country even make bees the main source of income, but combine it with trading in bee-hives and appliances.

CONSTANT READER (Dunfermline).—*Transferring to Clean Hives.*—The bees and combs may be safely transferred to a clean hive on any warm day now, when bees are on the wing. Lose no time in getting the operation through, and let frames occupy same position relatively as in the old hive.

A. B. C. (Wilts.).—*Suspected Combs.*—There are slight traces of foul brood in comb sent, but it cannot be that "all combs in the hive are about same," as stated in your letter. The sample has no sealed brood, but only a small patch of young larvæ, with two and three eggs in some cells, and in several cells are seen eggs deposited on the dead larva With so few particulars as are given, and those rather faulty, it is impossible to diagnose the case properly.

F. B. T. (Boston).—*Queen Cast out Dead.*—1. Yes, the bee sent is a queen. 2. It may be that the moving of hive marked C, and feeding afterwards, has created some excitement among the bees, and caused them to "ball" their queen.

(*Several Letters and Queries, in addition to our usual "Homes" Illustration, are unavoidably held over till next week.*)

Special Prepaid Advertisements.

Twelve words, Sixpence; for every additional Three words or under, One Penny.

STOCKED HIVES, 25s., 30s. SWARMS, 10s., 5s. Free delivery. SUTTON, Burston, Diss.

20 HEALTHY STOCKS. Young Queens. Standard Frames. Cheap. Rev. JARVIS, Coleford, Glos. U 34

ON SALE, three healthy STOCKS of BEES, in frame hives. Owner leaving. ROPER, Edge Bank, Nether Edge, Sheffield. U 82

FOR SALE, cheap, 12 hives of healthy BEES. Apply, by letter, to J. RAVEN, 12, Finsbury-pavement, City. U 80

FOR SALE, three strong healthy STOCKS of BEES, in bar-frame hives. Expert's certificate. Also appliances, extractor, &c. F., Willowbrook, Warbleton, Sussex. U 84

FOR SALE, NINE strong STOCKS of well-wintered Bees in bar-frame hives. Also drawn-out combs in shallow frames. Apply JACQUES, Hornington Cross, Rollestone-road, Burton-on-Trent.

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. Neat Patterns. W. WOODLEY, Beedon, Newbury.

HONEY in bulk from 6d. per lb. in suitable quantities. Also 48 2-lb. tie-over jars and 56 1-lb. tie-over jars. Also 12 SKEPS of BEES, warranted healthy. Sample 2d. Hon. Sec., Lincs. B.K.A., Tothill, Alford

GIVING UP BEES.—Four strong STOCKS FOR SALE, in standard bar-frame hives; also lifts, crates, numerous Sections, broad and shallow frames, and other appliances, mostly new and unused. All "Blow's" make, 1897 pattern. Apply, WINSHIP, Halton Red House, Corbridge-on-Lyne. U 83

STOCKS in skeps, packed in safe travelling cases, 15s. each. Stocks on 10 frames, 25s., packing included. Guaranteed healthy. SALMON, Bee Expert, Hardwicke, Gloucester. U 78

BEES. Mr. H. LINSTEAD, Garboldisham, Thetford Norfolk, can SPARE strong healthy STOCKS in straw hives, in lots of from 1 to 40. Correspondence invited. U 79

FOR SALE, owing to removal, part of my Apiary, comprising 16 Stocks of Bees in modern bar-framed hives, top bars 15½, self spacing frames, from 25s. each. NESS, Expert, Sproxton Apiary, Helmsley, Yorks. U 68

BEES of my well-known strain, guaranteed healthy. 3 Frame Nuclei 12s. 6d., 6 Frame Stocks 20s., 8 Frame ditto 22s. 6d. Ready for delivery. Orders for Swarms booked now. WHITING, Valley Apiaries, Hundon, Clare, Suffolk. U 81

22ND YEAR, Pure Blacks, Swarms booked now for early delivery in rotation, 10s. 6d., 12s. 6d., 15s.; also Nuclei, for strengthening weak stocks, three frames 9s., four frames 10s. 6d. Packed securely and sent in suitable weather. ALSFORD, Expert, Blandford

W. DREW,

Manufacturer of Self-Hiving Bar-Framed Hives and Bee-keeping Appliances.

Saint Cross, Winchester. Catalogues free, U 19

Editorial, Notices, &c.

THE "ROYAL" SHOW.

ENTRIES CLOSE MAY 1.

As only two days remain in which to make entries for the above important show, we hope no one will be caught napping and forget the date. Everything promises well for honey of '98, and the saving clause which provides for return of entry fees under certain circumstances should ensure an exhibit from all who are likely to have anything worth staging. See advertisement on front page for particulars.

NEW EDITION OF THE "GUIDE BOOK."

We have much pleasure in announcing the issue of a new and still further improved edition of the above popular work. The fifteenth edition (35th thousand) is now ready for delivery, and it is more than gratifying to find its popularity not only unabated, but increasing. Without any advertising outside our own journals—and without using any of the "testimonials" we possess in its favour—it is not too much to say the "British Bee-Keepers' Guide Book" is the most extensively read bee-book extant. It has also attained the proud position of being translated into more foreign languages than any work on the subject ever published.

To this statement of simple facts we add nothing beyond commending the new edition to the notice of our readers.

WARWICKSHIRE B.K.A.

ANNUAL MEETING.

The annual meeting of the Warwickshire Bee-Keepers' Association was held on Thursday, the 14th inst., at the Grand Hotel, Birmingham. The Rev. J. W. Hatton presided, and there were also present Major Deykin, Dr. Bower, and Messrs. C. Saunders, A. Stanbury, Walters, Turner, J. Simkins, Franklin, J. Ingerthorpe, J. Hatton, V. Bower, Simkins, jun., Woodward, E. Turner, Thomson, Felton, Blackwell, Smith, Reeves, Faulkner, Jeffreys, Dalman, Hurst, and J. N. Bower (hon. sec.).

The eighteenth annual report, which was taken as read, states that since the last report was issued, forty-one new members have been added to the roll of subscribers, the total number of members now standing upon the books being 253. Financially the position of the Association is satisfactory. The total income for the year amounts to £59 8s. 9d., and the expenditure to £47 16s. 4d. After wiping off an adverse balance of 17s. 4d., there is a balance in hand of £11 12s. 5d. The Committee have long since felt that the Association should possess diagrams and lantern slides for purposes of demonstration at the various meetings and lectures given under the auspices thereof. The funds having warranted the expenditure, a set of up-to-date diagrams and slides has been purchased, which, doubtless, will add greatly to the utility of the Association. Owing to the arrangements made last year with the Birmingham Dairy Company, the difficulty in disposing of members' honey no longer exists. In conjunction with the Royal Agricultural Society's show to be held at Birmingham in June next, the British Bee-Keepers' Association will hold an exhibition of honey and bee appliances, and it is hoped that members will respond liberally to the invitation to exhibit, and will put forward every effort to make the show a success.

The Chairman, in moving the adoption of the report, congratulated the Association on its increased membership and satisfactory financial position. He also drew attention to a paragraph in the report of the expert, who stated that he was more impressed than ever that the necessity for immediate legislation with regard to "foul brood." Major Deakin seconded the resolution, which was carried unanimously.

The President and vice-Presidents of the past year (with the exceptions of the Earl of Bradford, Colonel the Hon. C. G. Scott, and Sir Charles Mordaunt, deceased) were then re-elected, together with the Countess of Aylesford and Lady Peel as vice-Presidents of the Association, Mr. J. N. Bower was re-elected hon. secretary, Mr. J. R. Ingerthorp assistant secretary, and Mr. G. Franklin, expert. An executive committee was afterwards appointed.

At the conclusion of the business meeting Mr. James Simkins delivered an interesting lecture on "Practical Bee-keeping."—(*Communicated.*)

IRISH BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual general meeting was held on 21st inst., Mr. D. Farrelly in the chair. The report which was adopted, shows a substantial increase in the number of members. Much instruction in bee-keeping had been given at the Glasnevin Apiary, and by lectures at various places in the country. The sale of members' honey in Dublin and Cork had been continued, but, to prevent the Dublin market being over supplied, bee-keepers are recommended to make efforts to sell as much of their produce as possible in their own locality. Two extra prizes had been offered by the Association to its members at the co. Kerry Show, and at the Royal Dublin Society's Winter Show most of the exhibitors and prize-winners in the honey classes had been members.

The outgoing officers were re-elected, the hon. secretaries being Mr. H. Chenevix (of 15, Morehampton-road, Dublin) and Mr. M. H.

Read, and it was resolved that Dr. Traill should be asked to accept the office of Vice-President. The scrutiny of voting papers showed that fourteen of the old Committee and Mr. J. A. Aiken, of Kesh, co. Fermanagh, were elected on the new Committee.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEE-KEEPING.

HOW TO ACHIEVE SUCCESS.

(*Continued from page* 102.)

[3242.] *Uniting and Dividing Colonies of Bees.*—Here are two operations, each having a useful and necessary purpose, although of themselves diametrically opposite in their effect. Dealing first, then, with joining-up or "uniting," this operation is frequently necessary in spring and autumn. It is not at all uncommon to find bees queenless in the early months of the year. Sometimes the queen, being old and worn out, succumbs to natural decay, while not seldom untimely manipulations and unseasonable disturbance causes death of queens by what is known as "balling." At other times the queen or mother-bee, although still in existence and heading the colony, is far past her best day, and, in consequence, unable to produce sufficient young bees to bring the stocks into a flourishing condition by the honey flow. It may go against the grain to destroy a queen and apparently sacrifice a stock, but under certain conditions it is by far the wisest course to pursue. A stock with a failing queen will do no good alone, and young fertile queens are often unobtainable early in the year, except at very high prices, and then often of doubtful quality, because common sense should convince any one that queens offered for sale before swarming begins are mostly from weak stocks, and therefore seldom satisfactory. By uniting the bees and brood (if any), it may serve to help on another stock having a good queen. On the other hand, uniting bees in autumn is often advantageous, because stocks weak in autumn very rarely winter well—at least, not nearly so well as strong colonies. Surplus queens, therefore, if of the current year's growth are usually saleable if offered in good time, and this adds to the advantages of uniting in cash value. The method of carrying out this operation is practically the same at both seasons of the year. All that is necessary is to depose, or dispose, of the queens it is desired to be rid of. If old, they are worthless, and a pinch across the thorax instantly disposes of them. This done, gradually bring the now queenless bees to be joined up into close proximity to the stock to which it is proposed to unite them. This is done by nearing them two or three feet per day, taking care to move the hive only on such days as the bees are flying, otherwise many bees will be lost. Having got the hives close together, the remaining and final operation is simple. First find the queen and secure her in a cage such as is described on page 129 of Cowan's "Guide Book," draw the frames on one side so as to leave sufficient space for the combs of the queenless stock which contain brood to be inserted, dust both lots of bees with flour, using a flour-dredger for the purpose, and give just sufficient; don't smother with flour, but slightly dust the bees all over. Now join them together by alternating the frames of both hives in the one being dealt with. Then place the caged queen on top of the united stock so that the bees may release her during the next few hours. Remove the now empty hive right away and *do not examine* the united stock for a week at least.

Dividing Colonies.—This is an operation often ventured upon without sufficient knowledge of the requirements necessary. First and foremost, then, all stocks intended to be so treated must have ample time given them to requeen and build up into sufficiently strong colonies for wintering well. To do this successfully is seldom practicable if the bee-keeper expects both increase and surplus for any single stock in one season. Exceptionally favourable seasons now and then occur when this may be done, but very seldom. One stock from two or more and some surplus is possible in an ordinary season, but this moderate proceeding seldom contents the ordinary run of bee-keepers, as may be gleaned from your "Queries and Replies" column. The rule is to try and make three or even four stocks from one, and get a crop of honey besides. Needless to say, such ideas often lead to disappointment and worse. If two stocks are expected from one, very little surplus honey should be looked for, because, for the reason above stated, it is necessary to commence operations early in June. If the bees show signs of swarming naturally let them do so, and the desired increase is obtained; or if this be not convenient, or the bees will not swarm, the stock may be divided by moving it to a new stand a little distance away and placing a new hive on the old position furnished with five or six frames of comb; or, if these are not available, use full sheets of brood foundation. When all is ready, take from the removed stock one frame of brood bees and the queen and place them in the centre of the new hive; close up frames and pack warmly down. Do this in the morning of a fine warm day, and at no other time. Feed both

stocks. The new hive will now have the queen, some young bees, brood, and all the working bees; so it may be left to build up into condition. With regard to the removed stock, the case is different. That has brood and young bees, but no queen. Consequently, it must be requeened, and valuable time is saved if a fertile queen can be given them after the lapse of twenty-four hours; or the alternative may be adopted of permitting the bees to rear a new queen from the brood within the hive. This operation requires some supervision, as it will not do to allow the bees to raise queens from old larvæ. It will be found that they will raise several queens at one time from larvæ of various ages. Three days after the division inspect the cells started, and destroy all that contain larvæ over twenty-four hours old. In other words—and as a rough guide—permit the bees to raise queens only from the very smallest of the larvæ, removing all the larger ones. If there are other stocks to be treated similarly to the first one, allow the colony in question to raise enough cells to provide queens for all stocks to be operated on, subject, of course, to the supervision already mentioned. To make three colonies from two, take four or five frames of hatching brood and eggs from a strong stock, brushing the bees into the colony to which they belong, filling up the blanks thus caused with frames of comb or foundation. Now remove another strong stock to a new location, and place the beeless brood and eggs in a new hive on the vacant position; cover all down warmly. The new hive thus has brood and eggs from one stock, and bees from the other (removed) stock. The new hive can be requeened, or a cell given, in twenty-four hours, or it can at the end of three days be permitted to raise a queen for themselves from the eggs which will then have hatched. I say at the end of three days, because if allowed to raise queens before then they will be inferior in quality, seeing that sufficient nurse-bees will not be hatched out to take charge of raising really good queens. Old bees are useless for this purpose, the eggs will provide material for suitable larvæ up to the fifth day, at which time a supply of nurses will be available. In this operation great care must be exercised in the choice of the brood combs to be used for the purpose. In rearing queens, the bee-keeper must in all cases supervise the arrangement, as above expressed, and don't forget to feed all divided stocks.—HENRY W. BRICE, *Dale Park, Upper Norwood.*

RAISING QUEENS

AND PREVENTING SWARMING.

[3243.] I have been a diligent reader of the BEE JOURNAL, and the *Bee-Keepers' Record* for some years past, but do not remember to have seen anything just on the lines of the plan on which I worked my own hives last year, in view of not wanting swarms, and finding it inconvenient to be constantly on the watch for them for weeks, while also still desiring to keep my hives strong by the addition of young queens. I had wintered seven hives, and believing I had lost several swarms the year previous, I determined to try the plan of putting full sets of either shallow or standard frames with starters of foundation, under the brood-chambers of six of my seven hives, and to devote the other one to rearing queens, so that when the hives were back from the moors to either re-queen or to build up the several nuclei to winter them as stocks, as I thought best. The queen-rearing hive was stimulated by feeding and made strong early by using full sheets of foundation and spreading the brood; but it was not supered as the others were. During the last week in May I examined the combs, and finding no queen cells I removed and destroyed the queen. A week later there was plenty of queen cells, so I prepared six home-made nucleus boxes, each holding four standard frames. These boxes are all painted of a distinctly different colour, as in some previous endeavours to deal with nuclei, our boxes were all painted of one colour, and several of the young queens, after mating, failed to get to her own box when several nuclei stood near together.

My intention was to give each nucleus two frames of brood and one or more queen cells, together with two frames of foundation on the outside. While waiting for the cells to be nearly ready for hatching out, I meanwhile shifted the hive by degrees from its stand in the middle of the row, the first day a yard or so, next two or three yards, so on till I got it quite away from the others, so that when the time came for dividing the colony into nuclei the bees should not, on finding their home broken up, fly to the other hives and so get lost.

A beautiful morning coming at the right time, I removed the hive to be broken up, and placed the six boxes close together on three stands with their entrances all facing the spot where the original entrance had been. Each box had in it two frames of foundation ready, and I had two frames of brood for each, with at least one queen cell for all but one, which only got a single frame of brood, as there were only eleven combs in the parent hive. I then closed all up warm and left them till evening. Then the trouble began, because the bees had gone mostly into the two boxes facing south, leaving those facing the other way with very few bees. I therefore changed them about, brushing off the clusters that were hanging on to the alighting-boards into the hives having the fewest bees. This changing about had to be done several times during the next two or three days, getting the flying bees into any lot that seemed weakest. At last, however, I got all (excepting the one with only one frame of brood, whose queen did not hatch) equally strong. The nuclei were then all carried to stands twenty or thirty yards off, and I felt

quite dubious as to the result of my work, and rather suspecting that I had quite failed. Judge, then, my surprise when, on June 24, I found four of the nucleus colonies had laying queens, and the fifth one was laying a day or two later, so that I got five good nuclei, and I did not have one swarm from the other hive. —R. C., *Darlington, April* 13.

P.S.—Shall I send you my plan of securing the best results from the heather? We send yearly, for now over twenty years.—R. C.

[Without in any way doubting our correspondent's veracity, we are more than surprised that the plan detailed above could possibly succeed.—EDS.]

CAUSE OF DYSENTERY IN BEES.

[3244.] Your correspondent, Wm. Loveday, in discussing the subject of cane-sugar for bee-food (3230, page 145), mentions cases of dysentery among bees during the past winter which he attributes either to beet-sugar or badly-prepared cane-sugar food. One of my stocks, however, has during the last few months been suffering from what I conclude must be dysentery, and yet this stock has never been fed at all. It was a swarm last spring, gave me about 26 lb. surplus honey, and went into winter quarters with abundance of sealed honey in brood-chamber.

I examined this hive on 16th inst. and found the floor-board in a filthy condition, a great quantity of dead and decomposed bees at the back of hive covered with small maggots, the whole in such an insanitary condition that I wonder any bees lived at all in the hive. There were, nevertheless, four frames with large patches of sealed brood, showing that breeding was going on vigorously as, indeed, must have been the case or the colony would have been annihilated long ago, so great is the number of dead bees I have raked from the hive since January last. The bees have been dying both inside the hive and outside daily for a long time past. I found plenty of sealed stores remaining, and the frames were fairly clean. As already stated, I concluded dysentery was the trouble from the quantity of excrement on the alighting-board continuously since January, but had no idea of the abominable state of the floor-board or should have spring cleaned them weeks ago and risked the cold.

The remainder of my stocks are in splendid condition and gathering honey from an abundance of fruit blossoms in this neighbourhood.

My point in writing to you is this:—If what I have described above *is* dysentery, the argument of Mr. Loveday with regard to unsuitable beet-sugar being the cause of the disease seems to me a faulty one. It would, no doubt, interest other readers besides myself to learn the opinion of experienced bee-men upon the case in point, as to whether this is dysentery and what has been the cause? I may be allowed to say that slovenly bee-keeping or neglect in any way has not been the cause.—J. G. W.

[We rather fail to see where the argument is "faulty" which merely had reference to improper materials or badly-prepared food as probable causes of dysentery in bees. It is well known that the insanitary condition of the hive's interior, caused either by defective ventilation or—as in the case cited above—an accumulation of dead bees and the accompanying army of insect foulness which is often found in "dead and decomposing bees" will tend to cause dysentery just as improper food will. Our correspondent may be quite sure that the trouble with his bees will disappear now that the cause has been removed. —EDS.]

WAX RENDERING.

[3245.] In response to Mr. T. I. Weston (3,235, page 155) *re* "Wax Rendering," I send you the following particulars:—From five standard-size frames, taken from brood nest, weighing, without ends, 4lb., I cut out 3 lb. of old comb, leaving the empty frames to weigh 1 lb., and from this comb I secured by means of a Gerster Wax Extractor half-pound of wax. This would give 1 lb per brood nest of ten frames.—J. G, *Long Eaton, April* 25.

(*Correspondence continued on page* 166.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

The "Home" which forms the subject of our illustration this week shows one of the out-apiaries of our well-known correspondent Mr. Henry W. Brice, and is situate not far from the village of Farningham in Kent. Located at the upper end of a 24-acre field of sainfoin, the portion of the ground occupied by the bees is railed off, and protected on the higher side from west winds by a tall hedge, and is surrounded by hundreds of acres of fruit plantations, which at this season are white with bloom. The view from the hill on the top of which the apiary is situate towards the valley and the higher lands beyond is very fine. On one side it extends miles away to Dartford and the Thames, Horton Kirby, Sutton-at-Hone, and Gravesend, whilst the landscape towards Lullingstone Park and onward to Sevenoaks is equally varied and delightful, presenting a beautiful portion of the "Garden of England." The bee-house shown in the illustration is the smaller of two within the enclosure, the larger one having to be left out because of its tending to "get in the way" and spoil the picture; at least, so the photographer said, and he ought to know. As will be seen, the hives lie close under the hedge, and extend round the corner at the distant end. There being plenty of room, the hives are placed about 8 ft. apart, affording free

space for moving about amongst them, besides providing ample accommodation for at least 100 colonies. In the bee-house shown there are about a dozen stocks, and the one omitted from the picture holds twenty. Both houses are roomy enough to work more hives, but being located twenty miles from the owner's residence, room has to be found for certain multifarious but indispensable requirements and necessaries needed on a bee-farm so far away from home.

Then there are also the miscellaneous items comprised in the bee-gear and appliances Among these latter is a cupboard (already too

MR. H. W. BRICE'S APIARY, NEAR FARNINGHAM, KENT.

small) holding about 300 store combs, in addition to the hives containing bees. Last, but not least, provision must be made for the "inner man," which not seldom means several men, as the writer can testify. In fact, Mr. Brice surreptitiously laid his plans to get the junior editor of the B.B.J. into the picture, and, as the illustration shows, he succeeded. But we take especial pleasure in spending an occasional Saturday afternoon "on the hill" among the bees. The music reminds one of busier days when we were more at liberty to work among them. Two figures are, however, shown, and so to those unacquainted with the lineaments of either we may explain that the younger and nearer of the two individuals is Mr. Brice himself.

All hives seen (save the small nucleus-boxes or hives scattered here and there) are of the "W. B. C." pattern, except a few queen-rearing hives, which vary in size according to requirements. This out-apiary is what the owner calls his haven of rest, but most of those who know him are inclined to ask, "Does he ever rest?" Anyway, each week-end during the season sees Mr. Brice and his son (whom we should call the youngest expert queen-raiser in England) trundling their "bikes" for about twenty miles along the pleasant lanes of Kent to their Saturday recreation ground on the hill top, known in his family circle as "the works."

Asked for a few words concerning himself, Mr. Brice doesn't trouble us with much in the way of "copy." He writes: "Unfortunately, I am not an important personage; in fact, I have not yet risen to the dignity even of a parochial authority, and I don't expect to ever become a Lord Mayor. I am, however, not altogether unknown to some of your readers, and so, perhaps, the case will be fully met if I put myself down as a worker 'B,' one of the two in the picture, and say, I'm the little one.'

That he is a "worker" few will deny who know him, but, just to get a little further than he himself inclines to go, we add a line or two in concluding this sketch to say Mr. Brice is a member of the Council of the B.B.K.A., besides being Hon. Secretary of the Kent and Sussex B.K.A., is a good amateur photographer, and adds to his busy days of labour (among the intricacies of the law at Lincoln's Inn) by burning the midnight oil (more of it than we think is good for him) in writing and studying and working among and about bees and bee-keeping. Much of his labours in this direction are recorded in our pages, to which we hope he may long remain a contributor.

CORRESPONDENCE.

(*Continued from page* 164.)

DEALING WITH FOUL BROOD.

[3246.] After having read your remarks on the subject of foul brood in "Useful Hints" of April 21, on page 152, I will be glad to have your opinion as to the best procedure under the following circumstances :—Last summer, in first week of July, two of my hives became slightly affected with foul brood. Unfortunately there was no doubt on the subject, as I had your own authority that such was the case. Shortly after it broke out one of the affected colonies swarmed, and I destroyed the parent stock ; the other hive did not throw off a swarm, and I fed it for the remainder of the season on syrup medicated with naphthol beta, and as the disease did not make any apparent headway, but rather diminished towards autumn, I resolved to try to cure it. Since the middle of March this season I have examined it about once a week, and each time have poured into empty combs at side of brood-nest about a pint of syrup medicated with a teaspoonful of soluble phenyl to each quart of syrup, and am glad to state that since that time I have not been able to detect a single larva affected with foul brood or dead from any cause.

The swarm referred to in first part of my letter has remained healthy. I may mention that I have not found any sealed cells containing diseased matter, and was hoping that the cure might be permanent ; but must confess to a very uneasy feeling since reading the remarks in B.B.J. to which I have referred.

I should have had the bees off the combs last autumn but for reading the late Mr. Cheshire's pamphlet on foul brood, and trust that I may not find that the "enemy is not dead but sleeping."—"ALSIKE," *Kilmarnock, April* 23.

[We see no cause for our correspondent's alarm. Our observations on page 152 had reference to a stock badly affected with foul brood standing amidst nineteen healthy colonies, and we merely quoted the case as demanding total destruction in preference to attempting to cure, because of the unavoidable risk to the healthier stocks immediately contiguous to the diseased one. —EDS.]

THE "ROYAL" SHOW SCHEDULE.

[3247.] We wish to exhibit (not particularly to compete for prizes) bee-appliances at the Royal Show. But on reference to schedule, we notice that Class 341 reads the same as last and many previous years, viz. :—"To consist of the following articles," and lower down follows the words, "no articles must be added to the collection." We would be glad if you would give us some explanation of this clause, because last year and in many previous years we have noticed that none of the exhibitors have adhered to this rule, and yet have not been disqualified. If the above rule is to be ignored (as it was last year) and exhibitors allowed to bring an ironmonger's shop, a tinware shop, a printer's shop, &c., we should be glad to know, so that we might take staging for a few cottages, greenhouses, portable buildings, &c., in addition to the specified bee appliances (?) mentioned in rules.—E. C. WALTON & Co., *Muskham, Newark, April* 23.

[The only "explanation" we can offer is to remind our correspondents that the words quoted must be read along with the context. The full clause reads thus :—"No articles must be added to the collection, nor any portion of the exhibit removed *during the show*." (The italics are ours.) We might also add—by way of further explanation—that in the paragraph specifying the appliances which must be included in the collection there follows the words :—"And other distinct articles at the discretion of the exhibitor." It goes without saying, however, that in a class for "Collection of Hives and Appliances," only such things as are used in bee-keeping are admissible.—EDS.]

NON-SWARMING HIVES.

[3248.] I notice in B.J. some discussion between Messrs. S. Simmins and J. S. Greenhill on the subject of non-swarming hives with sliding chamber below brood nest, which said chambers can be withdrawn at the will of the bee-keeper. Will you in justice allow me to say that I embodied this very principle in a non-swarming hive invented and made by myself so long ago as 1886. It is known as Trebble's "Acme" Hive, and described in my old price lists at the time (one enclosed for your inspection) as "A non-swarming hive come at last." There are scores of them in use in these parts. If my words need verifying anyone who has the B.B.J. for May 2, 1889, may also read a letter dated April 26 in that year, and signed "North Devon Bee-Keeper," from which I quote the following extracts. The writer says :—"I saw some good hives in the apiary of Mr. Trebble, of South Molton, the other day, which I think are just what is

wanted for the non-swarming principle." Then after describing the hive and the swarm-preventing arrangements below brood nest, he goes on to say of the sliding chamber, "this has a door in the back so that when combs in sections are drawn out, the case of sections is put on top of body box to be filled with honey, and an empty one takes its place. . . The under crate can be drawn out without hurting the bees in the least."

I need say no more than draw attention to the above, and leave bee-keepers to form their own conclusions.—J. TREBBLE, *South Molton, April* 25.

LETTERS STOLEN.

[3249.] Will you kindly allow us to state that on Thursday last, the 21st inst., our letter-box was broken open and its contents stolen.

Those of our customers and correspondents who wrote us on the 20th, and have had no reply, will please communicate with us again, we will be much obliged.—JAMES LEE & SON, 5, *Holborn-place, W.C.*

OUR WILD BEES.

(*Continued from page* 157.)

[3250.] There are two little *Andrenæ*, the smallest members of the genus in Britain, which bear some resemblance to *Halicti*. They are *Andrena minutula* and *A. nana*. They may, however, be at once known from a female *Halictus* by the absence in them of the ridge, or "rima," on the fifth segment of the abdomen. Besides this the head is generally rather broad, and the inner margins of the eyes are filled with golden pubescence, very conspicuous in certain lights. The surface of the body, as well as being punctured in some parts, is also finely rugulose. Under a low power of the microscope these rugulosities have the pretty appearance of a mosaic pattern ingrained on the surface. The two species are closely allied. In *A. minutula*, however, the abdomen is generally not distinctly punctured, while in *A. nana* it is clearly so. The length is 6 to 7 mm. (= $\frac{1}{4}$ in.). Both species are common, and they may be taken now and throughout the summer. At this time of the year I have netted them on sunny roadside banks and on dandelions. In the autumn they are particularly fond of blackberry blossom.

Perhaps some would-be entomologist, who has patiently waded through all this dry talk in the hope of learning something therefrom of interest and profit about the wild bees, has followed the directions, with a few modifications, given in my earlier papers; but on going out to collect, results have been unexpectedly disappointing. At first, maybe, no bees were to be seen. Now, however, he takes plenty of insects, which he feels pretty sure are bees, but as to what genus or to what species they belong he is entirely at a loss, and gets quite confused over it. He reads and re-reads. Scarcely one of his specimens seems to agree with the descriptions given, and he takes them, perhaps, under entirely different conditions to those stated. Finally, his stock of time and patience being exhausted, he resolves to give the whole thing up as a bad job, deciding inwardly that either the fauna and flora at Dover must be very different to his, or else he has discovered some most unusual forms of bee life in his rambles. It is, of course, possible that some of his surmises may be right in part, but the probability is that a little more acquaintance with the bees would have shown him that almost all the species I have described will be met with; and the pleasure resulting from the identification of these, which is increased by its slight difficulty, is but the beginning of an interest that will always relieve the loneliest walk in the country from dulness.

When I first began to take an interest in the wild bees I experienced just such a feeling as I have mentioned above. Dry text-books full of jaw-breaking names and unexplained terms, except where the authors graciously condescended to an occasional observation in intelligible English, threw a damper on my enthusiasm, and produced a feeling of dismay, from which, however, I soon recovered. Still I must confess that if I had not, with every *dose* of text-book, imbibed a good *draught* of rambling and searching, not in books or cabinets, but in country roadsides and hedges, and all kinds of wild places, my enjoyment in entomology might have reached zero point some time ago. And yet these dry books, that may seem to some so contrary to the nature of their subject, have great value, and the more the entomologist learns, the more he will recognise this fact. And so I feel constrained to urge upon all my indulgent readers to take, in like manner, a good *draught* of out-door collecting with each *dose* of my papers if they would reap the full benefit from them.

One of the difficulties which the beginner has had to contend with, as I did, is that of being unable to discern clearly the characters given. For examining the smaller species a pocket "Coddington" lens, obtainable from any dealer in natural history requisites for about 5s., will be found of great service, as by the use of this useful little instrument the puncturation on the mesonotum and other parts, and the sculpture and superficial markings of the propodeum, the variations of which are so valuable in closely allied species, especially of Hulictus, may be easily seen.—F. W. E. SLADEN, *Dover.*

(*To be continued.*)

Queries and Replies.

[2018.] *Spring Management.* — May I trouble you with a few questions *re* spring management? I am pleased to say that my two stocks have wintered extremely well One

is a stock in skep which I have now transferred to a frame-hive by placing it on top of the frames. The other, a stock in frame-hive, wintered on six combs. A fortnight ago, finding the bees working well and the four inside frames thickly covered with bees, I gave them a frame of foundation next to the outside one which contained nothing but sealed stores. I examined this latter hive on the 17th inst., and found the frame of foundation all drawn out and covered well with bees. So I gave a sheet of foundation on the other side of the hive, moving the outside frame (which also contained sealed stores) nearer to hive side to make room for it. 1. Have I done right up to the present? What I want to know now is this: the bees have two frames of comb full of stores, one on each side of hive, besides sealed honey in the tops of inside frames. 2. Is this sufficient to last them? 3. Which would be best, to uncap a few cells of sealed stores or feed with syrup? 4. If it is best to uncap cells, please say how it is done—whether to remove the capping with a knife or simply to scratch the surface of same? 5. And also, which are the best frames to uncap? Those on the outside which are full of stores or the tops of the inside frames?—G. K., *Hornsey, N., April* 19.

REPLY.—1. Yes. Quite right. 2. Amply sufficient in view of present fine weather. 3. Uncap as proposed. 4. Bruising or scratching the surface of capping is best. 5. Those nearest the brood.

[2019.] *Keeping Bees in Top Room of House.*—Permit me to thank you for your reply to my query (2011, page 148). The instructions given there I have carried out. I would again appeal for information on the following:—1. Should I give a comb of brood from another hive to the united colony referred to on page 148 if I find no brood, say, in a week's time? 2. I have inserted a comb in centre of brood nest, three-parts of which is drone cell; would that be sufficient for the purpose named? 3. My other point is, would you recommend a person to start bee-keeping by using a top room of his house as a place to keep his hives in? The gentleman I refer to has a small lawn, but is afraid to put the hives there on account of his children. It is end house of a row in a small town, and the room mentioned is in roof of house about 30 ft. from the ground facing west.—C. H., *Cornwall, April* 19.

REPLY.—1. We should give a comb of brood at once; it will stimulate breeding. 2. Yes. 3. A location for bees so high as 30 ft. from ground has some disadvantages, especially if exposed to high winds, and some improvised screen or shelter to entrances will be helpful to heavily-laden bees striving to enter the hives under such circumstances to keep them.

[2020.] *Sending Queen Bees by Letter-Post.*—On Friday, the 15th, I sent, by letter-post, a queen, with two worker bees, to a place near Darlington; and on the 19th I got them back, dead, the person to whom they were sent informing me that when received at their destination but one bee was alive, the box only reaching them on Monday, the 18th, at 11 a.m., so that it took from the 15th to the 18th in journey from Ascot to Darlington. I send you the box just as I received it back, and in exactly the same condition as sent to Darlington; same method of paper, cover, string, and label. Please say who bears the loss—the buyer, seller, or can the value be recovered from Post Office? I have written Secretary, G.P.O., London, but, of course, have had no reply.—G. A., *Ascot, April* 20.

REPLY.—There can be no doubt as to freedom from responsibility on the part of the Post Office, while between buyer and seller it should be a matter of arrangement beforehand. We rather fear, however, that both in the matter of equity and justice our correspondent has himself been unwittingly at fault; a fault caused, moreover, simply by excess of care in preparing the package for posting. Why, in delivery to us the letter was delayed beyond the usual time because of the unusual directions outside as to opening package, &c. Our postman withheld it from the early delivery in order to hand it to us personally some hours later. Again, no queen bee should be sent by post with only two attendant bees, especially in the month of April. From a dozen to twenty should be sent at this early season. Nor should any special or precautionary directions appear on the letter at all. There is now no difficulty in sending queens safe by post with experienced queen-breeders, and, for all the postal authorities know (or care), it might be a bit of wood they are carrying. Our correspondent's travelling-box was a suitable one—save for being unnecessarily large and strong—and if it had contained a dozen or more bees, the queen would in all probability have landed alive and well.

[2021.] *Equalising Stocks in Spring.*—Will you kindly advise me on the best way of equalising a strong and a weak stock? My strong stock is now quite crowded with bees on nine or ten frames of comb, but the weak one, which has a young Ligurian queen, is reduced to about three frames owing to dysentery lately and queenlessness last autumn. Should I give this weak hive a frame of hatching brood once a week from its stronger neighbour and continue this for a month? Your valuable advice will be much appreciated.—H. T. H., *Sancton, Yorks, April* 17.

REPLY.—We should be quite sure as to the cause of weakness in the stock headed by the Ligurian queen before robbing the strong colony of its brood every week as proposed. If the paucity of bees in the former is really caused by queenlessness last autumn, and the present queen only needs bees to start her off breeding well,

it may be good policy to rob the strong lot as proposed for a few weeks to come, but only combs containing almost wholly sealed brood should be removed. It must also be borne in mind that it will retard the strong stock's progress, and consequently diminish its usefulness very much for the coming season by robbing it as proposed, so it needs consideration so far as judging whether or not "the game is worth the candle," as the phrase goes.

[2022.] *Re Dealing with Queenless Stocks.*—Some three weeks ago, seeing that the bees in one of my hives were not carrying in pollen, while the rest were taking it in in large quantities, I examined it, and found that, although the hive was full of bees, there were no signs of either eggs or larvæ, while the other hives examined on the same day were well advanced in that business. I therefore concluded that this particular hive was queenless, and gave it a comb of eggs and larvæ from a strong stock, hoping that the bees would raise a queen for themselves, which would duly become fertile when the drones began to fly from the other hives; but to my disappointment, on re-examining it a day or so ago, I found most of the brood had been raised as workers and the remainder about to become such, and no signs of queen-cells. Now, seeing that this stock is too strong to unite to another, all my other hives being in splendid condition, what ought I to do to save the stock?—A. E. G, *Harton, Essex, April* 23.

REPLY.—Give another comb of eggs and brood as before. It is more than probable that queen-cells will be raised now that young bees have hatched out from the first comb of brood given. Remember that old bees long queenless are not seldom averse to queen-raising, while the companionship of young ones—who form the nurse-bees of the colony—will often start them raising queen-cells readily.

[2023.] *Glass Quilts for Covering Frames.*—In the B.B.J., April 1, 1897, page 126, under heading "Bee Notes from Sussex," I see an article on "Glass Quilts." Being one of those interested in the question of "glass quilts," having just fitted them to three hives, I read the above-mentioned article with great interest, and inferred from it that the writer "W.R.N." had wintered his bees under glass quilts. Am I right or wrong?—W. C. H., *South Devon.*

REPLY.—Right.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

D. J. (Bebington).—*Teaching Bee-Keeping.*—1. We make no pretence in the B.B.J, so far as supplying information which should obviously be sought for in the pages of a text book on the subject. In other words, any one who undertakes to keep bees on modern principles should take the necessary steps to make himself acquainted with the various operations involved and the proper methods of carrying them out. To do this, a book written for the purpose and with the object of explaining the "why and wherefore" of various occurrences—not a weekly periodical—is indispensable. We cannot pretend to go on repeating week after week simple information which the merest tyro in the craft ought to have at his fingers' end. The only alternative, therefore, is our "Query and Reply" column. In answer to our correspondent's query we say first, there is no cause for alarm in the few bees found outside the hives. The mischief—so far as loss of young bees through chill—will have ended now that the cold chilling winds are over and warm weather prevails; second, so long as stores are plentiful, and all seems going on well, the less hives are interfered with in early spring the better.

NOVICE (Diss, Norfolk).—*Bee Pasturage.*—*Stimulating Bees.*—1. Field beans yield fairly well of honey but not much pollen. The field turnip when left for seed affords good bee pasturage, yielding a good supply of both honey and pollen. Red clover occasionally affords a supply of honey from the second crop, but the legend regarding the longer tongue of the Ligurian bee enabling that variety to gather nectar from first crop red clover is now generally discredited. There is no *measurable* difference in the length of tongue, though the Ligurian is known to gather honey from plants not visited by the ordinary black or native bee. 2. Stimulative feeding is best done inside the hive because of it being more continuous and regular than outside or open-air feeding.

M. W. B. O. (Dover).—*Detecting Foul Brood.*—It is an entirely erroneous idea to suppose that dark cappings are a sign of foul brood. When brood-combs are old (as in your case) and consequently very dark in colour, the cappings of such combs are sure to be dark in colour, because of being wrought chiefly from the side walls of the same cells. It is quite saddening to contemplate a piece of comb like your sample, full of healthy hatching brood, which some shillings would not have induced us to cut from one of our own brood-combs. However, it is all right so far as reassuring you as to freedom from disease, and our only complaint is that package was received with P.O. label, "Found open in post and officially sealed." Please note "Hints" on page 151 last week.

W. J. T. (Ryde).—*Brace-Combs.*—The projecting parts must be pared down with a sharp knife, leaving a clear passage-way for the bees between combs.

J. T. A. (Enniskillen).—*Treating Foul Brood.*—1. The directions in "Guide Book" to which you refer are the direct outcome of

the author's personal experience of the disease and of exhaustive experiments made by him for the purpose of fully investigating its nature. This being so, he does not care to engage in frequent discussion with those whose views, however well meant, are backed by less fully-informed opinion or experience, but gives his own views for what they are worth. 2. Keep closely to the directions given and you will not go wrong—nor will any harm result to eggs or brood if a "sprayer" similar to that shown on page 104 is used.

M. G. H. (Torquay).—*Joining County Association.*—The Hon. Sec. of the Devonshire B.K.A., Mr. H. Tolson, Park House, St. Thomas, Exeter, will give full information as to membership, &c., if written to.

D. V. (Dunaskin).—The wax sent is of very good quality, but we don't quite care for the artificial aroma imparted to it, as we think, by the use of some perfume which reminds us of scented soap. Are we right in this?

Hilton.—*A Beginner's Queries.*—1. The "Ford-Wells" hive is not at all suitable for a beginner. 2. Double hives are not "approved of generally." Only experienced bee-men are able to work them successfully. 3. We don't know what "books say that coarse Demarara, or raw sugar, makes whiter combs than white sugar, but that is not our view. 4. Raw unrefined sugar is very liable to cause bees wintered on food made from it to suffer from dysentery. 5. The length of time syrup will keep without fermenting, largely depends on how well or ill it is made. 6. Yes, Carniolan bees are much given to excessive swarming. The native bee, or a cross between it and the Ligurian, is most approved for use in this country.

Nimrod (Canterbury).—*Holes in "Wells Dummy" Stopped up.*—It would, of course, be better if the perforations were freed from propolis before giving surplus chambers accessible to bees of both compartments of the hive; but unless you have the ability to manage the operation neatly and without much disturbance, we advise leaving the dummy undisturbed. It is well known that no evil results have followed the latter course.

J. S. (Downham Market).—*Suspected Comb.*—The piece of comb has never been bred in at all; cells contain nothing more than mouldy pollen.

W. Williams (Birkenhead).—*Recipe for Mead.*—A good recipe for this appears in B.J. of November 4 last year, which may be had from this office for 1½d. in stamps.

Pea Flour (Yorks.).—*Mites in Flour Candy.*—We cannot say without seeing sample what the insects can be, unless they are "pollen mites."

*** *Pressure on our space again compels us to hold over Notice of Trade Catalogues and several other items in type till next week.*

Special Prepaid Advertisements.

Twelve words, Sixpence; for every additional Three words or under, One Penny.

STOCKED HIVES, 25s., 30s. SWARMS, 10s., 5s. Free delivery. Sutton, Burston, Diss. U 95

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. Neat Patterns. W. Woodley, Beedon, Newbury.

GIVING UP BEES.—Four strong STOCKS FOR SALE, in standard bar-frame hives; also lifts, crates, numerous Sections, broad and shallow frames, and other appliances, mostly new and unused. All "Blow's" make, 1897 pattern. Apply, Winship, Halton Red House, Corbridge-on-Lyne. U 83

BEES of my well-known strain, guaranteed healthy. 3 Frame Nuclei 12s. 6d., 6 Frame Stocks 20s., 8 Frame ditto 22s. 6d. Ready for delivery. Orders for Swarms booked now. Whiting, Valley Apiaries, Hundon, Clare, Suffolk. U 81

ABBOTT'S "GAYTON," NEIGHBOUR'S "SANDRINGHAM" HIVES, containing healthy STOCKS. Two-year queens. 17s. 6d. and 25s. Deposit. T. G. Rose, Schools, Feltham. U 94

HEALTHY STOCKS, Ten standard frames, 20s., in good hives, 25s. Last year's queens, 5s. Rev. Jarvis, Coleford, Glos. U 90

FOR SALE, 500 yellow BEDDING CALCEOLARIAS, cheap, in one lot, or exchange. Apply, A. Thomas, Ponsonby, Calderbridge, Carnforth. U 92

WANTED, good EXTRACTOR, RIPENER and DRAINER. Full particulars to John Williams, Lower Gore, Kington, Herefordshire. U 91

FOR SALE, Five hives of Bees, also the last three bound volumes of *B. B. Journal*, would exchange for bicycle. C. Taylor, Herlingfordbury, Herts. U 93

THREE healthy, strong stocks of Bees in "Gayton" hives, 15s. each, 35s. the lot. Bell, Brooklands, Dartford, Kent. U 89

HEALTHY SUPERIOR BEES, three frame nuclei 12s. 6d., six and eight frame Stock, 20s. and 25s. Few Stocks of English bred Carniolans, 30s. John Walton, Honey Cott, Weston Leamington. U 88

22ND YEAR, Swarms booked now for early delivery in rotation, 10s. 6d., 12s. 6d., 15s. Alsford, Expert, Blandford.

CLOVER and SAINFOIN HONEY, about ½ cwt., 5d. lb. Samples 2d. Alfred Elliott, Kingston Langley, Chippenham, Wilts. U 85

TWO strong STOCKS of BEES, in frame hives, with accessories. Hamel, Devonshire Promenade, Lenton, Nottingham U 86

SITUATION WANTED by young respectable Man, well up in bee-management. Would fill up time with gardening, or any other work. H. C., care of *Bee Journal Office.*

FOR SALE, a quantity of English HONEY, in 10 lb. and 28 lb. tins, 6d. per lb. Geo. Reynolds, Eaton Ford, St. Neots. U 87

FOR SALE, cheap, to an immediate purchaser, six '97 CASTS, only two more Stocks for sale Orders booked for natural swarms. Linstead, Garboldisham, Thetford, Norfolk.

WANTED to PURCHASE BEES by the lb., no hives. Milledge, Brentwood, Essex. U 100

NATIVE BEES, healthy Stock in Neighbour's frame hive. Nineteen Shillings on rail. Walters, Poyston, Haverfordwest. U 98

BEE PLANTS.—EPILOBIUM ANGUSTIFOLIUM, flowers June to October, 12 plants 1s. 3d.; WHITE ARABIS, 6 large clumps 1s. 3d. Edith Taylor, Old Hall-lane, Rusholme, Manchester. U 99

GLOUCESTER

is a very good Railway Centre for the West of England, so Bee-keepers living in this part of the country should try **E. J. BURTT,** who keeps a large and varied stock of **Bee Appliances** ready for prompt delivery.

EDWD. JNO. BURTT,

Bee Appliance Manufacturer, GLOUCESTER.

Illustrated Catalogue Free.

Editorial, Notices, &c.

NORTHUMBERLAND AND DURHAM B.K.A.

The annual meeting of the members of this Association was held on Saturday, April 23, in Lockhart's Café, St. Nicholas-square, Newcastle. Mr. T. Russell, of Felling, presiding. There was a good attendance of bee-keepers from various parts of the two counties.

The question of holding a honey show in Newcastle in the autumn was discussed, the committee undertaking to make arrangements for same if possible. It was also decided to have bee-excursions to Westerhope, Hartburn, Alnwick, and Edmondbyers; and that a course of lectures on bee-keeping be given during next winter. The officers of the past year having been re-elected, the proceedings concluded with a social chat upon the prospects of the coming season. Several members reported that owing to the mild winter and spring, bees were in a forward condition, and now doing good work upon the early spring flowers.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal,' *Office*, 17, *King William-street, Strand, London, W.C.*"

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEES AND BEE-KEEPING IN INDIA.

[3251.] In connection with the inquiry for information, which the B.B.K.A. have instituted in regard to *Apis dorsata*, the large bee of India, I was recently permitted to see, at the Indian Record Office, the collection of papers on bee-keeping published in Calcutta, 1883, under the orders of the Indian Government Agricultural Department, also Mr. J. C. Douglas's handbook of bee-keeping for India, published in Calcutta, 1884. Mr. Douglas was a superintendent of telegraphs at Ganjam, and I regret to find, on inquiry, that he died in 1887. He was enthusiastic on bee-keeping in India and the introduction of modern methods. It was owing to him that the Indian Agricultural Department caused extensive inquiries to be made, which led to the official publication in 1883 above referred to. Mr. Douglas's book and this collection of official reports seem to be the only records on the subject in the Indian Record Office. It may be of interest to your readers to briefly summarise their contents, and if the subject be thus brought to the notice of bee-keepers in India, we may thereby obtain further and later information in regard to *A. dorsata*. It may also be the means of learning whether any advance has been made in India in bee-keeping on modern lines, since the lamented death of Mr. J. C. Douglas.

His book was intended as a guide for bee-keepers in India who desired to adopt modern European methods; he hoped for the co-operation of Anglo-Indians in the work. The sanitary precaution of the bee, foresight, division of labour, self-sacrifice and vigilant industry, appeal to all lovers of nature; and the subject bears, he said, upon some of the greatest philosophical problems—notably that of animal automatism.

Very little reference is made to *A. dorsata* by Mr. Douglas. Mr. Douglas, whose book was published in 1884, speaks of very excellent light-coloured honey having been produced by Mr. Todd from indigenous bees. He speaks, too, of the successful introduction of the Italian bee in India. Mr. Douglas describes three species of bees common to India, viz.:—

A. dorsata.—Builds immense single comb under boughs of trees or overhanging rock.

A. indica.—Builds parallel combs in cavities of trees.

A. florea.—Small bee, building single comb on trees and walls.

He believes the domestication of "unicomb" bees has not been attempted, their cultivation by usual means not being considered possible. Their single comb cannot be removed without taking the brood as well as the honey.

The queen of *A. indica* differs so little from worker that she is very difficult to find; the stocks admit of being made very strong, but swarms come off to such an extent that many stocks die in winter of starvation; the rainy season in the plains of India appears to correspond to our winter season in the cycle of bee life.

Mr. Douglas says that the existence of foul brood was reported in Bhutan.

The collection of papers published in Calcutta by the Indian Agricultural Department in 1883 was the result of Mr. Douglas's effort to get modern bee-keeping methods introduced in India. He thought there was a future for bee-keeping in our great Dependency, and at his suggestion the Indian Government invited local governments to send information on the subject. The replies comprise a large number of interesting reports by Forest and District Officers who had paid attention to the subject.

The broad conclusions of the Government of India on the subject were the following:—

1. Several varieties of honey-bee in every

province where sufficient forest or jungle; honey of some varieties good and in considerable demand.

2. Successful efforts made in hills by Europeans to domesticate Indian bees, but natives only practise rudest ways.

3. Very doubtful if domestication possible in plains, owing to dearth of flowers three or four months preceding rains.

4. Mr. Stormont, of Bombay, and others in Southern India, had given up all attempts to domesticate most common variety found there owing to intractable nature.

5. Industry unlikely to be of great importance in India, particularly in populous plains, as a general industry.

6. Under these circumstances there was little or no call for action on the part of Government.

Among the numerous communications in the official paper is one from the Rev. T. Mayer, Church Missionary Society, Bannu, December 7, 1881, who speaks of five kinds of bees. Among them one *very* large bee building single combs of a hundred weight—evidently *A. dorsata*. He speaks of having hived swarms of other sorts successfully, and feeding them on sugar-candy in the winter. He sends drawings (of which I made rough copies) of the queens, workers, and drones of three sorts —1. Black bee Tormach. 2. Waziri Ghalanzi. 3. Bunnoochi Ghalanzi.

Mr. George Birdwood (now Sir George Birdwood) thought the subject of great interest, and considered that the bee had been more completely domesticated in India than in any other country, but only in Himalayan regions; he describes the practice there, and quotes Moorcroft's travels as to management of bees in Cashmere, where honey is taken without destroying the bees.

Sir George speaks of corresponding with Mr. Woodbury, of Exeter, twenty years before (probably 1862). Mr. Woodbury had died meantime, but Mr. Horton Ellis had sent valuable correspondence, extending over 1863-1869, between Mr. Woodbury and Professor Jardine, Mr. Frederick Smith, of British Museum, and the late Sir John Hearsey. The correspondence related chiefly to the question of the specific character of the various historical and domestic bees, Egyptian and European.

In the numerous reports of the official publication I could find little on the subject of *A. dorsata*, but the correspondence is too voluminous to wade through critically in a few hours.—E. D. Till, *Eynsford, Kent, April* 18.

SPECIFIC GRAVITY OF HONEY.

[3252.] I fully expected Mr. T. I. Weston's query (3235, page 155) respecting the specific gravity of good honey would have been answered in this week's issue, and have often wondered that so few books on bees and honey touch the question, especially as judges at honey shows make so much of density. Indeed, supposing granulation has not commenced, or, after reliquefying, there seems to be no reason why judges should not be familiar with some form of hydrometer for testing the density of honey. Only, perhaps, the judges would say, "Mellimeter, indeed! Don't I know honey of good consistency the moment I handle it? And the process of using the 'jigger' would be too tedious, because it would take so long for it to find its position of equilibrium in honey." I once made a rough calculation of the specific gravity of honey, and brought it out at about 1·32. But I did it only for my own satisfaction in getting an approximate figure. I reckoned I had drawn so many pounds from so many inches down my cylindrical honey-ripener of an ascertained diameter—all rough measures—and the weight taken a pound at a time with turning of scale. Then the cubical contents were turned into gallons by the well-known co-efficient, and water taken at 10 lb. per gallon. Of course most of this is so inexact that it is of no value except as indicating one of the many ways in which a bee-keeper finds unending interest in his hobby.

I hope some correspondent will reply to Mr. Weston with a reliable figure, and if we could have added the limits of fluctuation in the densities of good honey, and even of any *pure* honey, so much the better. It would be interesting to know, also, how far adulteration affects the specific gravity of honey.—S. Jordan, *Bristol, April* 29.

[The correct meaning of the term "specific gravity" not being universally understood among bee-keepers, it may be well to define it as given in the words of a good dictionary, thus: "Specific gravity is the ratio which the weight of the *matter* of any substance bears to the weight of an equal *bulk* of pure water." In other words, specific gravity may be stated as the comparative weights of equal bulks of different substances, the assumed standard being 1, and sometimes 1,000. This standard is—for liquids and solids—pure distilled water. In this country the specific gravity is, however, taken at 60 deg. Fahr.

The specific gravity of the different kinds of honey varies considerably. Sometimes the bees gather liquid which is little more than sweetened water. At other times, the nectar stored in the cells is so dense that it solidifies before the bees have time to seal it, as in the case of ivy and heather honey. Good clover honey, extracted after being sealed, has a specific gravity of 1·370, which may be taken as the average specific gravity of British honey. A cubic inch of pure (distilled) water weighs ·0361 lb. Hence ·0361 × 1·370 gives ·04945 lb. as the weight of a cubic inch of clover (average) honey. Therefore, ·04945 × 277·27 (=cubic inches in an imperial gallon) gives 13·7146 lbs. as the weight of a gallon of average honey, or, in round numbers, 13¾ lbs. to the gallon; and tanks, or "ripeners," may be graduated in gallons or parts of gallons, or

to weight, as required or found conve it. The weight of an imperial gallon of d ed water is 10 lbs. Syrup made from 7 l of cane sugar dissolved in 3 lbs. of water has the specific gravity of average honey.

The question raised by our correspondent, however, so far as it affects judging at shows, is almost wholly one of comparison, because any competent judge can without difficulty tell the difference in density between two samples without having recourse to mechanical tests in the form of—suppose we say—a "mellimeter," or other instrument, the application of which would be practically impossible under the circumstances. In fact, the difficulties in the way of using such tests with any advantageous result are, to our mind, so obvious as to preclude discussion.—EDS.]

AN HERETICAL DOCTRINE.

[3253.] Mr. Allen Sharp's contributions to the JOURNAL have been a source of pleasure to me, and I have read and re-read them with much appreciation. Generally I have been in full accord with all his views. To one of his latest, however, I must take entire exception. I mean the strange doctrine of smashing up newly-built comb. This has been a marvel to me. It implies, to use a homely phrase, that you can eat your cake and have it; that two and one are four; that the part is equal to, if not greater, than the whole. It must mean, if it means anything, that it is easier and cheaper to build a house from the foundation and roof it, than it is to roof in a house the walls of which are already built. To change the simile, I fail to see how a wax candle, if smashed up, returned to the maker, and re-made, will yield me a better and cheaper light than if used as I first received it from my grocer. Every year I have a goodly number of sections about the end of July in all stages of progress. I take, and have taken, the greatest care of these, and have had my reward when in the early days of August the hillsides wear their purple dress, and the heather is redolent of lucid sweets, soon to become nectar fit to serve as food for gods or men. Our seasons are so short, and the nights, and too often the days, are so chilly that a disinclination to start new comb is so manifest, that I rejoice in every scrap I can utilise, in order that I may save my bees all the labour possible. I have even a feeling that I can't regret when, as frequently happens, a spell of bad weather comes on in late July, compelling the bees to make raids on the upstairs cupboard, so that the ready-built cells are filled with the more luscious amber-coloured heather honey.

Combs kept over from the end of the season for another year's crop differ only in degree from those just referred to. In the past I have saved up every scrap of unfinished section for the next year, looking on them as so much money in hand. Now a bee-man, whose opinions I respect, tells me to smash up every crumb of this ready-built comb, melt it into wax (a thing I dread), send it to a manufacturer, get it made into new sheets of foundation, and that I will secure a larger harvest of honey. No, friend Sharp, I won't! The words are curt, but they are intended to be perfectly civil and courteous. If I followed your advice I would ruin my honey harvest, and I prefer to make my bees pay in the future as they certainly have done in the past. I have just looked over five racks of sections, all perfectly fresh, sweet, and clean, which I carefully packed away and preserved from last year. They will come out in June a tempting bait to induce my most forward colonies to profit by the early clover honey flow. I find these sections as clean in wood and wax as any I can turn out. They are as well-finished and as toothsome as those built from fresh foundation. I know from experience—that best of teachers—that they are filled in half the time taken to complete those built on full sheets of foundation. This is not theory, but fact, proved again and again. Why, then, should I advance backward? Why should I add to my bees' labour and increase my own? Why should I add to my expenditure in order to decrease my output? If I have read bee-books and bee-papers aright, *all* writers and editors take this, the orthodox, view. Am I not right when I designate the new doctrine now promulgated as heretical?—F. E. I. S., *April* 26.

STARTING BEE-KEEPING.

A BEGINNER'S FIRST EXPERIENCES.

[3254.] I see from the Journal that you are not above giving advice to beginners, and being very anxious about my bees, I ask a little help out of my trouble and your kindly advice under the following circumstances:—A fortnight ago I bought from a bee-keeper at Clapham (four miles from here), his then apparently strongest stock. This man has had a lot of experience, having about forty hives, some of them rather rough, but he never winters his bees as recommended in the "Guide Book," consequently the hive I bought had the whole *ten* frames in it, and the dummies were placed hollow sides inwards, so that the bees had built comb in them. I transferred the frames of comb and bees into a new hive of good type that I had purchased ready for them, and as three of the combs were empty I removed them and closed up the dummies. The combs are dark brown in colour, and there was a lot of compact capped brood in them, but no stores, so I promptly put on a feeder supplied with medicated syrup, as per "Guide Book." Though this was my first attempt at bee-handling I was not stung, although using no gloves.

All this took place a fortnight since, and I then learned that the bees had neither been winter-packed nor fed, but just left alone after

last year's work. A week ago I inserted a frame fitted with full sheet of "Weed" foundation in centre of the seven frames; in doing this I got stung once, my first sting. The combs did not smell then, and a good bit of honey had been gathered (this is an immense fruit district) and some capped. Another week having gone by I proceeded to-day to give another frame with sheet of foundation as before, and found the sheet put in last week was completely worked out and partly stored, but no brood in it. There was, however, a lot of capped brood and unsealed larvæ in all stages, but looking white and plump, together with a lot of hatching bees gnawing their way out of the sealed cells, but I got quite alarmed at the most (to me) disagreeable smell; it was perceptible six feet away from the hive. Some of the bees also had what looked like tiny bright drops of a brown liquid on upper side of the thorax, just between the wings, what is this? The queen is a large one, apparently much larger in proportion to the workers than as shown on page 8 of "Guide Book. The bees are now crowded on eight frames, seven of them being nearly full of brood; but none of the larvæ show signs of being diseased, according to Mr. Cowan's description of foul brood. The cappings are whole and the grubs plump and white; but it is the peculiar smell that I am in such doubt about. I must also tell you that the combs appear to be very old and all nearly black, while the man from whom I bought the bees, as already said, never does any feeding nor use any preventive against disease. All his hives are old home-made things, and he has grass growing up all round them. During the past winter he has lost six or seven colonies from some cause. I have fed my lot on medicated syrup from the time I got them, though they take but little now as honey is coming in tolerably fast. I removed one old frame of comb this afternoon in order to substitute one of the proper frames belonging to my new hive. It had a lot of honey in it, some fifty cells being capped over, but it smelt so abominally that I burnt the honey comb and all, except a small bit I am sending you. The colony is strong and hard at work, bees coming home loaded with pollen, and they are storing a lot of honey. To-day the bees are very vicious, and although wearing a pair of Cape-kid gloves and a woollen pair over them, I was stung a good many times; but the old frames have no metal ends on them and required levering-up with a screw-driver, the bees stick them down so fast. I send you a little of the strong smelling comb and a few dead bees picked up from around the hive entrance. Will you kindly say if there is any foul brood about it, and, if so, what can I do? The honey season began here the last week in April, as acres of apple-trees are in blossom at that time. The brood in the comb seems quite healthy, according to the information I can gather from the "Guide Book," from which I have gained much knowledge about bees. I began taking the BEE-JOURNAL in February last, but had never seen a bee-hive, much less examined one, before I bought the stock of bees referred to. The man who sold me the bees declared he had never had foul brood; didn't know what it was, and said that mine was a perfectly healthy stock. I had my choice of all his hives and selected what I thought was the strongest of the whole lot. I did not notice any disagreeable smell when I transferred the combs from the old hive to mine, neither did I on giving the first frame of foundation. This is my story, and I conclude it by asking, what can I do? Thanking you in anticipation.—E. P. G., *Worthing.*

[We are very pleased to be able to reassure our correspondent that his alarm is quite groundless, and is caused by the peculiar smell given off by some of the honey gathered from early sources of supply. It is not surprising that one with only a few weeks' experience becomes alarmed when such needless stress is laid by some on the foul smell emitted from a diseased stock of bees. It is only in very bad cases that the very offensive smell is so noticeable, and it bears no resemblance to that of the peculiar odour characteristic of some earlyhoney when first gathered. So far as the crushed up comb sent for our inspection, there was really very little smell of any kind about it when received, and no trace of any brood or of disease. The "tiny, bright drops of brown liquid" are—we suspect—insects, *i.e.*, Braula cœca, or blind-louse.—EDS.]

(*Correspondence continued on page* 176.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Mr. A. D. Woodley, whose apiary appears on next page, comes of an old family of bee-keepers, located on the famed Berkshire Downs. Born December 26, 1852, he was educated at the village school, and at the age of fourteen was put to learn the business of a grocer. Eleven years later he entered the office of Messrs. Huntley & Palmer, Reading, and is still employed there. His interest in bee-keeping was first aroused in February, 1879, after reading an article on bees in "Chambers' Journal," and before the end of that year had read up a good text-book on the subject, made a frame-hive from directions given, got his first stock of bees (a skep), and transferred the bees and combs successfully to the new hive. Owing to the complete failure of the honey season that year, he found bee-keeping all outlay and no return. He was, however, in no way disheartened, having acquired a fair amount of knowledge about bees, and some degree of skill in their management as his reward.

In September, 1880, Mr. Woodley married, and his wedded life, though promising brightly and well, was early destined to be clouded

over by a domestic trouble, which has overshadowed it ever since. His wife at the birth of their first-born lost her reason, and has ever since been an inmate of the asylum, where she still remains. In a few brief notes regarding himself, furnished at our request, Mr. Woodley says: "Our boy is now a youth of sixteen, and I hardly know what would have happened to me but for my 'hobby,' which since then has formed my chief pleasure. Truly stranded on the threshold of matrimony, my bees have proved a great source of happiness, and I have benefited in health and purse thereby." Further on he adds:—

"I can claim to have practically introduced my now well-known cousin, Wm. Woodley, to modern bee-keeping, having made him his first bar-frame hive at this time, which same hive is still being used in his apiary, and giving good results.

"In 1882 I joined the Berks and Bucks B.K.A. (subsequently divided into two associations), since which time I have, as expert, assistant secretary, and honorary secretary, been connected with the Berks B.K.A., and during subsequent years have been brought into contact with most of the leading bee-keepers in the country. For several years I did a little in the appliance trade, and introduced several inventions, among which was the tin section cases and lace paper edging for glazing sections, but, finding it grow beyond my powers, it was handed over to Mr. Flood, who still continues the business.

"I have always given special attention to the question of marketing honey and the honey sales scheme, which not only proved successful with us in Berks, but has since been adopted by many other county associations. I gave full details of this scheme in my paper on 'Honey Sales,' read before the British B.K.A. in October, 1895.

"Since the Technical Education Act has been in force the Berks B.K.A. has had a grant of £50 per annum from the Berks County Council, and in 1893, with their help, the bee-van was started and has since made an annual tour in different parts of the county. In addition to this we have undertaken work with it in Surrey, and it is largely owing to our work that the Surrey B.K.A. has been revived and is now in flourishing condition."

MR. A. D. WOODLEY'S APIARY, CAVERSHAM, BERKS.

It will be seen from the above brief *resumé* that the work done by Mr. Woodley on behalf of bee-keeping has been active and long continued. Among his labours are included several "tours" through the counties of Berks and Surrey. During these journeys numerous demonstrations in village apiaries and bee lectures on village greens have been undertaken, with the result of arousing an amount of interest in his craft, for which Mr. Woodley may justly be awarded well-deserved thanks of all interested in the bee industry.

CORRESPONDENCE.

(*Continued from page* 174.)

CLAIMING SWARMS.

[3255.] I should be pleased if you or any of your numerous readers could give me advice on the following point through the medium of B.B.J. We have a rather disagreeable neighbour who has a garden by the side of our apiary. Last year several of our swarms clustered on a plum-tree in his garden, and I went and hived them without asking his permission, but was not interfered with. Unfortunately, he bids fair to be more disagreeable than ever this year than last, so I want to know what I can legally do. Am I justified in going on his ground to fetch a swarm without asking his permission to do so? Or, if I take "French leave" and he orders me off or otherwise prevents me from securing the bees, what steps should I take? If I *ask* permission, it is a dead certainty that I will be refused. Can you advise me what I had best do? I may say the premises are fully-licensed as a public-house, and the "trade" is the cause of the unpleasantness.—"TRENTSIDE," *April* 30.

[We can quite appreciate our correspondent's difficulty under the circumstances detailed above. An irate publican standing on what he may consider his "rights" within his own garden is a substantial fact not readily brushed aside. On the other hand, when there is "law" behind the bee-keeper it tends considerably towards balancing matters. We should, therefore advise our correspondent keeping strictly within *his* "rights" as laid down in these pages many times over in past issues, *i.e.*, take care that the swarm is *kept in sight* from the time it leaves the hive until the bees settle. Then while carefully abstaining from doing any appreciable damage to your neighbour's garden, proceed to hive the swarm, and if permission to do so be refused, have a reliable witness to attest that a formal request has been made with that object, and that the value of the bees will be sued for in the County Court. It will not be difficult to quote precedents from reports of cases in the B.B.J. which will secure compensation for swarms of bees under similar circumstances.—EDS.]

CHECKING ROBBING.

[3256.] The following account of how I saved a good stock of bees from destruction by robbers may interest readers:—

Noticing that the hive in question was one morning being attacked ruthlessly by robbers, and well knowing by an examination a week previous that this particular stock was in good condition, with almost a full frame of food and eight frames of brood, I could not understand why the bees attacked did not themselves repel the invaders. Carbolic solution did not check them much, so I decided to examine the stock in the evening, when work was over for the day, fearing that, if done in the daytime, it would make matters worse. Judge, then, of my surprise when, on examination, I found there was not a scrap of food in the combs! An expert being present at the time remarked that there was something there to cause the commotion. It being a dull morning, I feared myself it might be a case of foul brood, but am happy to say it was a case of no food and bees disheartened, and both stock robbers and robbed having napthaline in their hives, making them both the same scent, no doubt added to the mischief. The sequel to this is "feed." Better to overdo it than not give enough.—J. D., *Chichester, April* 30.

WEATHER REPORTS.

WESTBOURNE, SUSSEX,

APRIL, 1898.

Rainfall, 1·14 in.	Sunless Days, 2.
Heaviest fall, ·21 in., on 27th.	Above average, 9·6 hours.
Rain fell on 11 days.	Mean Maximum, 53·7°.
Below average, ·41 in.	Mean Minimum 36·2°.
Maximum Temperature, 60°, on 26th.	Mean Temperature, 44·9°.
Minimum Temperature, 28°, on 6th.	Below average, 0·8°.
Minimum on Grass, 22°, on 13th.	Maximum Barometer, 30·34°, on 8th.
Frosty Nights, 11.	Minimum Barometer, 29·35°, on 11th.
Sunshine, 200·1 hrs.	
Brightest day, 8th, 12·8 hours.	

L. B. BIRKETT.

Queries and Replies.

[2024.] *Transferring Bees to Frame Hives.*—I bought three stocks of bees a short time ago, and have got them home safely. They appear to be prospering, so far as busily carrying in pollen, but I want to get them into frame-hives, and am led to ask advice as to the best way of doing it? I have read several letters on the subject in B.J., and, after telling a local man who keeps a great many bees that the end of April or early in May was the best time, according to what I had read, he told me the bees would swarm by that time, and that I should get a swarm for the frame-hive, and let the stocks remain in skeps. I would, however, much rather follow the plan recommended in BEE JOURNAL, as I might lose the swarms through being away from home. I therefore ask: 1. If you advise putting the skeps on top of frames and letting the bees work down into the hives below? Also, 2. How long would it be before the skeps could be taken off the frames? I do not care about getting any

section honey this year.—J. T., *Hants, April* 19.

REPLY.—1. We have so persistently advised (to beginners especially) the method mentioned in these pages, that we thought our strong preference for it was known to all readers. 2. The time will largely depend on the progress made in lower hive, but once the queen is breeding below, the skep may be lifted off as soon as brood in its combs are hatched out.

[2025.] *Buying Weak Stocks.*—I last week bought a hive, containing bees, from a distance away, without seeing them. Upon examination I found the bees only covered two frames, and the hive was in a filthy condition, while bottom-bars of frames were touching the floor-board. The bees had, therefore, made passages through combs, and no doubt this was cause of the rubbish on floor-board. I found the queen when looking over the combs, but there was no food and very little brood. I have transferred the frames of comb and bees to a new "W.B.C." hive and added two frames of comb foundation along with those which they covered, I also gave a bottle of syrup suitable for spring feeding, and put on some thick quilts. Yesterday the bees were carrying in pollen well. 1. Have I done right, or could I do better? 2. What result would it be best to work them for, safely? My desire being to increase my stock.—A. J., *Birkdale, May* 2.

REPLY.—Quite right. The best "result" to work for is moderate increase, combined with a fair amount of surplus. And this may be attained with a reasonable amount of safety by dividing the colony when the main honey harvest is over, by making an artificial swarm.

[2026.] *Bees Dying Off.*—I have been keeping bees here for the last three years without good results. I can manage to keep the bees all right through the winter, but from the beginning of May till end of July, I lose a lot, and the stocks get down into very weak condition by the end of summer. I may say we have a large quantity of rhododendrons, azaleas, and laurel flowers growing in our gardens here. Do you think any of these are injurious to the bees? I have tried buying several new stocks in order to improve matters, but all turn out the same in the end. I will be glad if you will kindly mention any remedy or state what is the probable cause of failure in bee-keeping.—W. T. J., *St. Mellion, Cornwall, April* 25.

REPLY.—Without going so far as to say that the cause of bees failing so unaccountably is the quantity of the plants named being in close proximity to the hives, it is known that the flowers named yield more or less of honey admitted to be poisonous. We have, however, never heard of it being so serious in effects as the above would imply. Perhaps some reader may be able to throw light on the subject?

[2027.] *Thermometer Suitable for Bee Work.*—Will you kindly advise as to the best kind of thermometer to use in taking the temperature of brood nests, and for other experiments in a hive? I was thinking of procuring a clinical thermometer, self-registering, and with a button on the top like an incubator thermometer to prevent it slipping through quilt; but I hardly think the range of degrees marked on a clinical register high enough for bee work, and so I thought of getting one specially made, and marked with whatever range of degrees you would recommend to me. 2. Possibly you would not advise it to be maximum registering, as the outside temperature might at times be more than the hive temperature, and other objections?—G. M. S., *Keswick, May* 2.

REPLY.—If nothing further is needed than recording the temperature of a cluster of bees, a clinical thermometer registering to 100 deg. or 110 deg. Fahr. would more than answer. Beyond that, however, the special one named would be necessary, and as described would be quite suitable.

[2028.] *Utilising Fermented Honey.*—1. I have some of last season's honey which has fermented, owing, I imagine, to its not having been properly ripened. I should be obliged if you could tell me (*a*) some method of utilising the honey either as mead or vinegar? (*b*) How to avoid fermentation in the future? 2. I see that bee-appliance dealers advertise "honey-ripeners" in their catalogues. Would it be worth my while, for a small apiary of ten or fifteen stocks, to purchase one of these "ripeners"?—IGNORAMUS, *Andover, May* 2.

REPLY.—1. The several processes of mead and vinegar making involve so much of description that we could not give it in this column. The Rev. G. W. Bancks' pamphlet on mead and honey-vinegar, so often advertised in our pages, would be useful with the object of utilising the fermented honey. 2. Fermentation may be prevented by allowing the honey to ripen on the hives. 3. There is no absolute need for a mechanical honey ripener; the bees will do it themselves if the nectar is left with them till it becomes fully ripe honey.

[2029.] *Surplus, with or without Increase.*—My only swarm of bees (purchased last year) now appear to be very strong; therefore I suppose they will soon swarm. But, wishing to procure surplus honey rather than increase of stock—if it is impossible to get both—I intend returning the swarm after having killed the old queen and cut out all queen-cells but the most promising, as advised; but, having had no practical experience, I shall be very grateful for answers to the following:—1. Is it better to try and prevent swarming, or, as the queen must be getting old, should I encourage it? 2. If a swarm issues this month and I do not return it to the parent hive, is there any probability of getting surplus

honey from either stock this season? 3. To ensure cutting out all queen-cells but one, is it necessary to take out every frame? 4. Why cut out cells at all? Why not rather let them hatch out naturally, when the young queens will fight for supremacy, thus securing the fittest? 5. If, in returning the swarm, I am unable to detect and kill the old queen, what will be the result? 6. If your reply to No. 2 is in the affirmative, and I put the swarm in a new hive, will the bees of the parent hive raise a queen without any interference on my part?—F. E. P., *Haverstock Hill, May* 2.

REPLY.—1. Encourage it. 2. There should be no difficulty in securing surplus from swarm if season is fairly good. 3. Yes. 4. The "fittest" goes off with the second swarm. 5. Swarm will re-issue. 6. Yes.

Bee Shows to Come.

June 20 to 24, at Birmingham.—Royal Agricultural Society's Show. Letters relating to Bee Department to be addressed, E. H. Young, Secretary, B.B.K.A., 12, Hanover-square, London, W. **Entries closed.** Post entries to May 14 by extra fees.

July 6 and 7 at Hanley, Staffs.—Horticultural Fête. Medals and liberal prizes for honey. Schedules now ready. Apply J. B. Barrow, Town Hall, Hanley.

August 17 and 18 at Dover.—In connection with the Dover Horticultural Society at Dover College Grounds. Additional open classes. Increased prizes and medals. Schedules from H. W. Brice, Hon. Sec. Kent and Sussex B.K A., Dale Park, Upper Norwood, S.E.

Echoes from the Hives.

Ashford, Middlesex. — Bees working splendidly and all stocks doing well except one side of "Wells" which is queenless (for about the fifth time) though strong in bees. There was brood on three frames when I took a peep about a month ago. Yesterday there was none, though some empty queen cells were found, and as the bees have not joined those on the other side, there may be a virgin queen there. I gave the stock a comb of eggs and hatching larvæ from each of three other stocks and will have a good hunt for a "virgin" on a suitable day. Each other stock has capped drone brood, and all are more forward than I have ever before seen my bees at this time of year. But, then, I have not had my bees in the country before.—H. E.

Honey Cott, Weston, Leamington, April 23. —The condition of bees this season on the whole are very good, and give promise of being ready to haul in a good crop of honey if weather is right, when the beans, clover, &c., are in bloom.—JOHN WALTON.

Jersey, Channel Islands, April 14.—We have had a mild winter here, and the plum trees, also the gooseberries and currant trees coming out. Apple just bursting. Gorse has been out since November last, and now beautiful. Heather in abundance within quarter mile, will bloom later on. Not much clover, land too much wanted for potatoes.—W. W. K.

Laurencekirk, Kincardineshire, N.B., April 24.—Bees here have come through the winter in good form, but weather of late very unfavourable for breeding, and forage later than usual.—J. S.

SEASONABLE QUESTIONS.

ANSWERED BY G. M. DOOLITTLE.

Question.—I have 110 colonies of bees, and intend to work for both comb and extracted honey in the coming season. I allow natural swarming, and have enough extra brood-combs on hand to fill seventy-five eight-frame hives. Forty of the colonies are in ten-frame hives, and thirty-five of these will be used for extracted honey. They will have to build a good part of the combs to be used in extracting from foundation, as I use combs only 5½ in. deep in the extracting-supers. Our surplus comes from white clover, which begins to yield honey about June 10; then basswood, which blossoms about July 3, lasting about ten days; and, lastly, from goldenrod, which begins to yield honey the latter part of August, and continues nearly through September. My principal trouble has been swarming during the honey flow, this interrupting work in the supers. Supposing the above to be your case, how would you handle the bees so as to secure the best results? An answer in *Gleanings* would be esteemed a favour.

Answer.—In the first place, I should not expect to "allow" many, if any, natural swarms from the colonies that were worked for extracted honey; for I believe more extracted honey can be obtained where colonies have no desire for swarming than can be by any plan which inclines the bees to swarm. Mr. Quinby told us years ago, that, if a colony were given from 5,000 to 6,000 cubic inches for a hive, and this space were filled with comb, such a colony would not be liable to swarm; and in all of my operations with bees I have found Quinby to be very nearly correct on this point, and especially so if the honey is extracted from the combs not occupied with brood as soon as most of it is sealed over.

Now let me digress a little. Why do you wish to use combs for extracting purposes, only 5½ in. deep? I have never been able to see any particular reason for using combs of any other than the same depth as the brood-frames, for extracting purposes. I know that a few of our advanced bee-keepers do use combs in the extracting-super of a different size from those in the brood chamber; but what few reasons for such a course have been given seemed illogical when viewed from my standpoint. Therefore, as you have asked me

how I would handle those bees to secure the *best* results, I can only reply that I would use those extra combs you say you have on hand on those thirty-five colonies I expected to work for extracted honey ; and if the honey is extracted from them as soon as it becomes ripe, this will do away with all swarming on the part of the colonies so worked, and, in my opinion, secure the best *possible* results from them. But I can tell you how you or any one else can prove whether Doolittle or any one else is right or wrong when his teaching is applied to your wants or locality. Just try the method advocated, on a part of the colonies, using your former plans with the rest, and this will prove the matter to your entire satisfaction. If the *new* plan proves good, then prepare to work the whole number of colonies that way. If it proves not so good as the plan or plans you have been using, then drop it, adhering to your old plans till you strike on something better. By doing this you may go a little slower, but you will go much more surely.

Now about that part worked for comb honey. I should certainly try a part of the colonies with the plan I gave in my department in *Gleanings* for January 1, 1898, unless I were anxious for increase, and I would try two or three colonies in this way, did I wish increase, so as to "get my hand in" against some time when I had all the bees I wished to keep. Then I would try another part in the following way :—

Take a hive having eight of those empty combs in it and place it upon the stand of any populous colony which you have reason to think will swarm in a few days, when the sections are to be taken off and placed upon this hive of empty comb. Now shake and brush *all* the bees off their combs down in front of the prepared hive, into which they will run as fast as shaken. After the combs are out, shake all the bees out of the hive, if any adhere to the sides of it, so that all of the bees from the populous colony will be in the new hive together, thus having the queen, bees, partly-filled sections, &c., so as to make a colony with no desire to swarm, ready for business at once. Previous to this, nuclei should have been started, so you will have plenty of laying queens to use as you may need them. Now take all the combs from which the bees were brushed, except one, and arrange them in the hive, carrying it to the stand of another populous colony. Next take the comb of brood which was left out and go to one of the nuclei, taking out the frame having the laying queen on it, and put the comb of brood in its place. Take the frame, bees, queen, and all, and set it in the place left vacant for it when arranging the combs of brood. Put on sections, and, when all is complete, move the populous colony to a new stand and set the prepared hive in its place, doing this work some time when the bees are flying briskly. Thus we have another colony with no desire to swarm (through our manipulation and its young queen), the same having a laying queen, and enough of her own bees to protect her ; combs full of brood, and all of the bees from the removed colony which have flown to any amount, which makes a swarm ready to go to work in the sections in a few days. The removed colony has simply lost the field bees, so as to stop the swarming impulse, and in a week will be ready for the sections again, thus making three colonies from two old ones, all of which are in the best shape to take advantage of the honey flow. If the harvest of honey is long drawn out, the colony last removed may swarm toward the close of the said harvest ; but with me, such is rarely the case. Should you wish more increase than the one colony from two, the nuclei can be built up to full colonies before the season closes. Or if no increase more than this is desired, then the nuclei can be used for the purpose of building frames of nice worker comb, which they will do with little or no cost, save the putting in and taking out of the frames as soon as they get another laying queen.—*Gleanings* (American).

TRADE CATALOGUES RECEIVED.

David Raitt, Blairgowrie, N.B.—Mr. Raitt this year supplements his full catalogue of 1897 by issuing an abridged list of bee-goods containing brief descriptions of all the necessary requirements for use in the apiary. He naturally attaches first importance to his own (provisionally protected) improvements in the manufacture of comb-foundation, with which the name of Raitt has been honourably connected as a speciality ever since that product was first manufactured in this country. We also notice that while retaining the old place familiarly known as "Beecroft," it has been found necessary to take on larger premises in the town of Blairgowrie, close to railway-station, where, with the addition of room and gas-engine power, the Factory will be enabled to meet all requirements, both of the retail and wholesale trades.

W. Shepherd, Oxton, Tadcaster.—Mr. Shepherd sends us his new and much-extended list of forty-four pages. It is well got up, fully illustrated, and brought up to date ; a special feature at the end being six full pages of "practical hints" on bee-keeping, together with useful recipes, which are evidently the outcome of personal experience on the subject.

M. Meadham, Steam Bee-Appliance Works, Hereford.—This catalogue, being the seventeenth issued by Mr. Meadham, testifies to his long connection with bee appliances and their manufacture. Well known, too, as the expert of the Hereford B.K.A. and as a lecturer on bee-keeping, it imparts a certain amount of confidence to purchasers that is always ensured when goods made are by one who is himself a practical bee-keeper.

A. W. Harrison, Potter's Bar, Middlesex.—Mr. Harrison's abridged list furnishes a fund of

information regarding bee appliances in a small space. We note also that every article enumerated is priced along with cost of postage for all transmittable by parcels post. Other special features include the use of red pine only for all goods in which wood is used, and prompt delivery on rail for cash.

E. J. Burtt, Stroud-road, Gloucester, in addition to specially revising and adding to his list for 1898, Mr. Burtt has made arrangements for sending a skilled assistant to attend to apiarian work at residences of bee-keepers for a moderate charge per hour, or by the day.

Wm. Dixon, 5, Beckett-street, Leeds.—In a modest compass Mr. Dixon furnishes a complete list of bee goods, the merits of which are attested in a whole page full of prizes awarded to him at various shows held every consecutive year since 1886. A certificated bee-expert, and himself a practical joiner, his goods may always be relied on.

T. A. Flood, Donnington-road, Reading.—This neatly got up and complete list is also supplemented by some useful instructions as to "handling bees," together with what is termed an "Outline of a Year's Work in the Apiary," which makes up a complete calendar of operations for every month of the year.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

H. S. (Surbiton-hill).—*Preventing Second Swarms.*—1. The issue of second swarms may be in most cases prevented by setting the first or top swarm on the old stand and removing the parent colony to a new location some distauce away. 2. You may secure the same object by making an artificial swarm according to instructions in "Guide Book." 3. It is not at all likely that a swarm would of itself take possession of an empty hive fitted with foundation, set near as a decoy, though it *might* happen.

B. M. (Wokingham).—*Transferring Bees.*—1. The skep should remain above frames till all brood is hatched out in it and bees are known to be crowding lower hive. 2. As you are anxious to start sectioning, the skep need not remain till filled with honey, but may be removed whenever it is broodless. 3. The contents can only be got by dripping or pressing if you have no extractor.

W. W. K. (Jersey, C.I.).—*Utilising Queenless Bees.*—It is quite a misfortune for a beginner to have bees in a hive with fixed combs, owing to the difficulty of judging as to queenlessness, or the condition of the hive's interior, so far as disease being present. However, as you say, the stock has dwindled down to about a pint of bees, and no pollen is carried in, it seems a certain case of either queenlessness, or of what is worse—disease. We therefore advise no such course as uniting the bees to another stock without first making sure on the points named above, and dealing with the bees accordingly. In no case, however, can the bees requeen themselves as you suggest, and the value of a pint of old bees being about nil at this season we should not trouble with uniting.

W. F. H. (South Croydon).—*Earliest Date for Safely Raising Queens.*—It is not easy to name a date applicable to all seasons and all operators, for "safe queen-rearing"—to quote our correspondent's own words. The main point for an expert hand, provided, of course, that flying weather prevails—is how soon can he get drones forward; but as a general rule the beginning of May is quite soon enough to look for safe queen-mating, and this being so, the start at drone-raising may be made as early in April as the strength of stocks warrant.

An Ignorant A. (Stafford). — *Preventing Swarming.*—1. The plan of preventing swarming to which you refer is more suitable to a practised hand than to one who is just beginning. Giving bees comb-building to do, either in an empty chamber below brood-nest or in frames provided with starters of foundation, according to the several methods put forward, will without doubt retard, if not entirely prevent, swarming, but the proper manipulation of such frames or empty chambers are a bit beyond the powers of an entire novice. 2. There are no means of removing honey from combs without damaging them except by using a honey extractor.

F. B. T. (Boston).—*Suspected Loss of Queen.*—1. Bee sent is not a queen, but a worker, which has apparently suffered from abdominal distension. 2. If a queen be lost at this season, leaving eggs or very young larvæ in the hive, a successor will almost certainly be raised therefrom.

J. W. C. (Newport, Isle of Wight).—*Dealing with Weak and Suspected Stocks.*—1. The comb received is slightly affected with foul brood in the incipient stage. This in itself would not necessarily involve destruction of the stock, but as all the other colonies are reported strong and healthy, while the one referred to is admittedly weak, with but little brood—and, let us add, as the sample of comb to hand is very black, and old, and malformed—we should, under the circumstances, rather burn the whole contents of the hive than try to cure it. 2. The other five stocks, judging by details given, are amply provided with stores and need no feeding.

Wax Extracting.—We have to thank several correspondents for further descriptions of their several methods of wax extracting, but there being so slight a difference between them and those which have already appeared, it is hardly necessary to print more letters just now on the subject.

Editorial, Notices, &c.

USEFUL HINTS.

Weather. — Without claiming too much for the first week of May, or that it can be classed as ideal bee-weather, the welcome rain, so entirely absent in the previous month, has caused Nature to don her gayest spring garb, so that just now the whole country side is decked in the freshest and loveliest of verdure. After the previous many weeks of exceptional drought, the warm rains have done an incalculable amount of good to the agricultural interest, and if less favourable to bee-keepers, the latter must "wait a'wee and bide their turn" —as our Scotch friends say—in the full assurance that the "turn" is close at hand. Anyway, judging by the present luxuriant growth everywhere around, there will be a grand crop of bee-forage ready for working on in course of a week or two. In exposed situations, or in cold, bleak districts, the late chilling winds will, no doubt, have checked increase in even strong colonies by causing the loss of a good many workers—workers who, after travelling too far afield in search of the coveted nectar, are, in the endeavour to reach the hive again, beaten down to the ground by the cold wind, where they die. Just as in our ordinary life, the too venturesome explorer fails to bear up against the toil and stress of the return journey. Such risks, however, must always be taken into account —or reckoned among the chances of an uphill fight against adverse conditions, inseparable from the lives of bees and men alike.

Giving Surplus Room.—Second only in importance to the removal of full supers, the operation of giving surplus room will now be foremost in the minds of the great majority of our readers. The thoughts of such bee-keepers as are fortunate enough to possess hives which are already—in the words of a note before us as we write—"boiling over with bees," will naturally take a different turn to those whose complaint is that the bees are not yet strong enough in point of numbers to need surplus-chambers. We will, therefore, venture to begin by offering a word of advice to the owners of colonies either already wanting room or rapidly reaching that desirable condition. First, then, give the bees so much of additional space as will be a little in advance of actual requirements. It will not be difficult to ascertain this need by raising the quilt on each side and noting if bees are crowded on all combs; and this giving of advance room tends greatly to check the tendency to swarm on the first burst of real warm summer weather. Keep the bees "going" by feeding if natural food is scarce, but do not on any account allow a queen to enter surplus-chambers so long as there are ten standard frames of good worker-comb are available for egg laying in her own compartment.

We have ourselves, in a very few instances of an exceptionally prolific queen, permitted the latter to have access to the first box of shallow-frames put on for the season; but even in these rare cases the reasons for allowing this liberty have been augmented by the inferior quality of the early honey stored in the said surplus-chamber. Moreover, we have allowed the bees to use the box as a store cupboard for the daily wants of the colony for the whole of the ensuing season. The use of an intervening chamber between brood and surplus also tends to preserve such sections as occupy the central portion of the rack from discolouration by the emanations arising from the brood-chamber below. While on this point we may add that drones, as well as queens, should be excluded from surplus-chambers where honey of very high quality is desired.

With regard to the bee-keeper whose stocks are in less satisfactory condition, his work will be in the direction of joining up or uniting in order to make his colonies strong for the coming honey flow, which every wise bee-keeper so ardently strives for. This brings us to consider the important question of

Uniting Stocks in Spring.—Before resolving upon this, at times, very useful bee-operation, several considerations must be taken into account if the full advantage of uniting forces is to be attained. It is a well-known axiom in bee-keeping that one strong colony of bees will, as a rule, gather more surplus honey than three, or sometimes more, weak ones; but this same axiom must not be taken too literally, *i.e.*, without reference to

other influences bearing upon the final result. It therefore becomes necessary to remember that, when some stocks are found to be weak in bees, while others have reached swarming condition early in May, there must be a good reason for so divergent a state of things in the same apiary, and before attempting to apply a remedy we must find out the cause.

The main causes of weak stocks in this month may be enumerated as (1) loss of queen in spring; (2) a failing queen, through age; (3) lack of bees through no fault of queen; (4) shortness of food; and (5) disease. We do not count such hopeless cases as where bees have been queenless all winter, or have had a drone-breeding queen for a long time past. Bees found under either of the latter conditions are all old, and as such, worthless for uniting purposes. Nor need we go closely into the whole "why and wherefore" of each specific cause of action which it is advisable to follow; but instead we select a simple case serving to typify the whole. Let us then suppose a stock is found weak through a failing queen: she has produced enough young bees to fill up the gaps caused by old workers falling off during the winter and early spring, but just when subject to the extra strain at this season her powers of reproduction give out, and the brood reared is insufficient to keep up the strength of the stock. Spring dwindling then follows, as a matter of course, and unless helped the stock is doomed. Well, another colony may possess a young and prolific queen, reared may be in a hive which has yielded a couple of late swarms and mated so late last year as to preclude the chance of the stocks going into winter quarters strong in bees. This queen then is stopped, so far as free ovipositing, because there are too few bees to cover all the brood she could produce. It needs no saying, then, how great is the help to such a stock as the bees of the dwindling colony will afford, by uniting them to it after removal of the old queen. The instance cited above is only one of many ways in which uniting is most advantageous at a time when the main honey-flow is getting near.

On the other hand, any bee man possessing even the most elementary knowledge of what to avoid in bee-keeping, should know that the first step preparatory to uniting weak stocks of bees must be a thorough examination of both lots to ensure that they are free from disease.

Remainder of "Hints" in our next.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 12, Hanover-square, W., on Thursday, the 5th inst., Mr. Till occupying the chair. There were also present the Hon. and Rev. Henry Bligh, Miss Gayton, Messrs. H. W. Brice, W. B. Carr, R. Hamlyn-Harris, W. H. Harris, J. H. New, T. I. Weston, and the secretary. Letters of apology for inability to attend the meeting were received from the Rev. W. E. Burkitt, Captain Campbell, Major Fair, Messrs. R. T. Andrews, R. C. Blundell, L. Belsham, P. Scattergood, C. N. White, &c. The following new members were duly elected:—Robt. Gray, 3, Oakfield-terrace, Hooton, Cheshire; Thos. Greenhalgh, Hermitage-green, Newton-le-Willows; T. Simpson Jones, Gungrog, Welshpool; Miss A. G. Leigh, Coney Berry, Goring-on-Thames; Hugh Rhys, Redbrook on Wye, Monmouth.

Mr. New presented the report of the Finance Committee, and gave details of receipts and expenditure during April, together with a list of the payments recommended by the committee. The report was adopted.

Mr. W. H. Harris, chairman of the Education Committee, stated that nominations of examiners to act at Birmingham, and judges at Penzance and Burslem shows had been made in response to applications received. He also gave particulars of arrangements made with the authorities of Swanley Horticultural College for the services of a lecturer and expert during the season, and the establishment there of an Association's apiary. The report was considered satisfactory and was unanimously approved.

The Show Committee reported that the schedule of prizes in the honey department of the Dairy Show had been drafted and submitted to the British Dairy Farmers' Association for approval or otherwise. It was stated that the prospects in regard to the "Royal" Show were of an encouraging nature. Correspondence in respect to the Portsmouth meeting of the Royal Counties Agricultural Society was placed before the Council, and the report confirmed.

CONVERSAZIONE.

At the conclusion of the Council meeting reported above, the members assembled in the Board-room at 12, Hanover-square, for the purpose of holding another of these interesting periodical gatherings. Mr. Till was voted to the chair, and amongst those present we noticed Messrs. H. W. Brice, G. J. Buller, R. Hamlyn-Harris, W. H. Harris, A. S.

Horlick, H. Jonas, H. G. Morris, J. H. New, F. E. Paine, W. F. Reid, E. H. Taylor, H. M. Turner, F. B. White, and others.

The Chairman said one of the subjects touched upon by a candidate for the Association's first class certificate, at the examination held that day, had reference to some of the means whereby an increased consumption of honey might be secured. This was, he considered, a subject of much importance to beekeepers at the present time, and one which he suggested might profitably be discussed in that meeting. Co-operation amongst producers had been put forward as likely to tend towards keeping the price of honey at a figure which would leave a margin of profit to the beekeeper. His opinion, however, was that comparatively low prices were necessary to increase the consumption, and that, even if low prices should prevail, some method would be devised for cheapening production and enlarging the output.

Mr. Carr thought it would be a hindrance rather than a help to endeavour to establish a central depôt for dealing with large quantities of produce; it should rather be county co-operation. Among difficulties to be confronted were the expenses attaching to the collection and grading of the supplies, and proper marketing, consistently with cheapness. It was, he said, futile to attempt to regulate the price of honey, bearing in mind its varying qualities. Something might, however, be done by county co-operation if members of Associations could be induced to send to a central depôt in their county their best produce, instead of retaining this for private sale, and expecting the County Associations to find customers for the common or lower grades.

Mr. W. F. Reid said the question of disposal of honey had been before the Surrey Association, and they thought co-operation should be within a limited area. Surrey was a residential county, and the honey produced therein was easily disposed of within their borders. He certainly was of opinion that honey might be more largely used in confectionery, and suggested the issue of a leaflet giving recipes for the manufacture of confections in which honey was an ingredient.

Mr. W. H. Harris thought it would be well to consider for a moment the seemingly conflicting opinions suggested. Some said restrict the output; don't increase the production, and thus compel lower prices; co-operate to maintain high rates. Others, with opposite views, say produce as much as possible; sell privately, and thus get a good price; market well, and thus secure increased consumption. He rather questioned the advisability of any endeavour to get rid of foreign honey competition. The British public were not sufficiently educated in the matter to easily distinguish between good and bad honey, and for this reason he considered the county labels were of much value in indicating home production. He would like to ascertain from those present whether they favoured a restricted output, with perhaps slightly increased prices, or an enlarged production at lower rates and an increased consumption.

A number of those present replied to Mr. Harris, showing the bulk of opinion to be in favour of a much larger production, and the organisation of county co-operation, to secure more uniformity in marketing the produce.

The discussion turned upon the advisability of taking some steps to detect alleged attempts to foist upon consumers foreign honey as English, and it was urged that it would be well to approach the Drysalters and Grocers' Companies to ask them to assist in some scheme to prevent or detect adulteration.

Mr. Carr showed several samples sent to the BEE JOURNAL office for exhibiting, of cheap section cases, of cardboard, glazed and otherwise, suited for the retail trade in comb honey, which were handed round for inspection, and favourably commented upon.

Mr. Weston sent samples of wax produced this season from old combs by means of the Solar Extractor. The refuse comb was also exhibited. The wax was of good colour and fine aroma.

A vote of thanks to the Chairman terminated the meeting.

HONEY IMPORTS.

An account showing the value of honey imported into the United Kingdom during the month of April, 1898, £2,426.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[3257.] The month of May has been ushered in by a cold rain, which followed along by several dull, sunless days. Consequently but little work has been done in the apiary, the bees being confined to the hives by frequent showers. We have, however, welcomed the rain, notwithstanding the interruption of beework, as the supply of water in the ponds and tanks was running very short. The moisture has also greatly helped the grass crop, vetches, and other plants from which we hope to secure our future harvest of honey. This is usually the month for early swarms in some districts, and to those who have not already ordered their supply of appliances for the season I

would counsel them to do so at once. Where large apiaries are some distance from the home of their owner, and swarms are not wanted, extra room must be given in advance of the actual requirements of the colony, and if swarm-catchers are used these must be adjusted in good time.

We have not heard much of self-hivers or swarm-catchers recently, but no doubt the swarming season will see the introduction of a better and more effective style than those of previous years, and that necessity will prove the mother of invention. I hope some of our progressive county associations will offer prizes for self-hivers or swarm-catching devices. The incentive of a silver medal or a good money prize will induce our geniuses to turn their attention to the matter. Failing the self-hiver, the best substitute, in my opinion, is the "Alley" queen trap, which retains the queen; and this desideratum secured, the swarm, of course, returns to the parent-hive, while the queen is retained a prisoner in the trap. The apiarist on his round of the apiary will thus be able to deal with the colony to suit his own requirements.

The honey season being now close on us our endeavours will be in the direction of securing as large a share as possible. The bee-keeper who works for comb-honey will be preparing sections ready for immediate use when the first honey flow begins. Everything should be in readiness so that there shall be no delay, his racks of sections—perfectly clean and free from propolis—wedged up tight, thus preventing the bees glueing them together. A few bait combs should be put in each of the first supply of supers.

Then all brace-combs or propolis should be scraped off the top of brood-frames, so that the racks fit down close on them, wood to wood; this precaution prevents a lot of useful time being spent by the bees in gathering propolis when they ought to be storing honey. In my opinion, frames ought to have top bars $1\frac{1}{2}$ in. wide in all hives intended for working section honey, as then there are practically no brace-combs or propolis used by the bees. With hives used for extracted honey, the width of frames is immaterial as the excluder zinc lies on the top of the brood-chamber and prevents much propolisation. We bee-keepers in this country generally use shallow-frames for extracting purposes, though I believe the bulk of the world's honey crop is secured from combs the same size as the brood-combs; and if any one is going to establish a bee-farm and work same for profit, the honey from a hundred boxes of combs standard size would greatly exceed the quantity from the same number of shallow-frames. The uncapping would not take more time, provided the knife was long enough in the blade, and the extracting could be done in the same time. Whether the bees would be longer in filling the combs depends principally on the extent and duration of the honey-flow in a good honey district. With strong colonies I do not think there would be much difference. There are some points against large surplus chambers; the first and most important is quality. The first part of the harvest is usually the best, and by using the shallow box of combs, the first take may be of the finest quality, and therefore command the best price; but if even a few pounds of dark honey be put into the super and mixes with the lighter sample, we know how that brings down the colour to a second-grade; but given a good honey district, I feel sure that the larger combs would give the best and cheapest harvest to the bee-keeper.—W. Woodley, *Beedon, Newbury.*

IS IT "HERETICAL DOCTRINE"?

NEW FOUNDATION *v.* BUILT OUT COMBS IN SECTIONS.

[3258.] When perusing the letter of your correspondent, F. E. I. S. (3253 p. 173) in this week's Journal, it brought to mind something I read or heard some time ago:—A certain divine, meeting a member of his flock, said, "Mrs. Brown, I hear you have been to those dissenters again. Don't you know that their doctrines are heretical?" The old lady replied, "They may be so, Sir, but their cake with sultana rasins in it is werry good." So Mr. Sharp's doctrine may be heretical, but the one thousand beautifully finished sections I saw at his place last back end, filled from new foundation, after my own bees (only seven miles apart) had left off finishing sections for the year, was—as the old lady said—"werry good." Mr. Sharp in his "Apicultural Notes" (3159, p. 54) was stating his actual experience when he said, at end of second paragraph of his letter, "In many cases last year my racks were filled up with sections, some of which contained new and the remainder old foundation. Those containing the former were filled with honey, while the old foundation remained untouched." Thus Mr. Sharp was not promulgating a new doctrine, but unselfishingly reporting a circumstance that had proved beneficial to him. I know that he honestly believed what he wrote for when, at his place he showed me a large case three parts filled with foundation (untouched and in nearly every stage of drawn-out comb) that he had taken out of sections, to be sent to Mr. Howard at Holme and re-made. Now, as Mr. Sharp is not in any way connected with the manufacture of foundation, it is not likely he would do that unless he could see an advantage in so doing. Nor do I see where Mr. Sharp's letter says or implies that you can "eat your cake and have it," or that "two and one are four," or is there anything analagous in the "wax candles simile." I do, however, think it probable that if F. E. I. S. were to drop his candle, and by so doing got some other substance adhering to it, which prevents its burning well afterwards, he would find it pay him to smash it up, even if he did not have it

re-made, if he wanted to do anything by the aid of its light!

It is not all "theory" about new foundation being better than worked-out combs, and I would like to ask, has "F. E. I. S." ever tried it in practice? I am sure friend Woodley has tested the difference of a sheet of foundation put on one side of the brood-nest, with a clean worked-out comb on the other. Anyway, it has been tried many times, and the foundation invariably is a long way in front of the ready-built comb. The bees take to it better, and it is first filled with brood.

It may be presumption on my part to differ from so high an authority as Dr. C. C. Miller, but in experimenting during the last two years, to see if bees preferred new to old foundation (unworked), I have taken foundation a year old and laid it in the sun for a few minutes to make it more pliable; then placed it in warm water for a short time, and have also warmed up the manipulating house while preparing frames, in order to make it (the foundation) more acceptable to the bees, but have never found them take to it as readily as that just fresh from the mills. Granting for the sake of argument that the doctrine I am helping to advocate is "heretical," we will admit that, as bee-keeping is going along at such a break-neck pace, it may be advantageous to be pulled up sharp every now and then to prevent us getting away from our bearings altogether; but—if I may be allowed to use a rather paradoxical phrase—there is no fear of Mr. Sharp *advancing* very far "*backwards!*" It means too much for him, seeing that profitable bee-keeping is of far more importance than airing pet theories to one who, to a great extent, lives by produce of his hives. As one who in a smaller way endeavours to work at bee-keeping for profit as well as pleasure—and knowing something of Mr. Sharp's soundness in argument—I sincerely hope he will continue to contribute to the pages of the B.B.J. anything he finds out which will be likely to benefit bee-keepers who read his "Notes," no matter whether his views may be quite "orthodox" or not.

Now, Messrs. Editors, I hope I have not trodden on any one's corns in writing thus plainly, but it seems to me that it is some time since "F. E. I. S." read Mr. Sharp's first letter on the subject. I would commend to all your readers the advice of Mr. Doolittle, on page 179 of this week's B.B.J., to just try the methods advised by various writers, and find out by experience what best suits their own locality and their own method of working.—W. H. Woods, *Hemingford Grey, May* 7.

BEES DYING OFF UNACCOUNTABLY.

SPRAYING FRUIT TREES WITH ARSENIC.

[3259.] I beg to forward you a reply to "W. T. J.," St. Mellion, Cornwall (2026, p. 177), which may explain the bees dying off, and will no doubt be new to you. Four years ago I helped to start a gentleman in bee-keeping at St. Mellion; the second spring afterwards he wrote me to say his "bees were coming home and dying in the garden path by hundreds." I went over and saw them lying about, and it struck me that perhaps the hives were in too close proximity to the arsenic works in the near parish of Gunislake. However, I suggested removal some distance off, and as myself and the owner were jogging along with the bees, in a trap, he casually remarked that he had used 4 lb. of arsenic in spraying his fruit trees, with the object of destroying insects (he being a large fruit-grower). I was also informed that other fruit-growers (of which there are many) on the banks of the Tamar, use proportionate quantities of arsenic for the same purpose, so that you will see that in the spring of the year the bees in a considerable radius were poisoned by arsenic. I have this week finished an expert tour for the Cornwall Bee-Keepers' Association in a radius of twelve miles round Truro, and find neighbourhoods where the mining industry existed a few years ago almost depleted of hives; the mundic and the water used for washing in mining operations being so destructive to bee life that it was barely possible to keep a hive of bees just in existence. As mining is on its last legs in Cornwall, we are hoping that the bee industry may be revived.—J. B., *Polyphant, Cornwall, May* 7.

EARLY SWARMS.

THE FIRST REPORTS FOR 1898.

[3260.] I had a natural swarm on April 16 from a strong stock taken from the front of a farmhouse last autumn, where the bees had lived and thrived in a semi-wild state for fifteen years. I shall have something further to say about this stock and swarm, which decamped, another time.—Wm. Loveday, *Hatfield Heath, Harlow, Essex, May* 3.

[3261.] Is the following fact worth recording? One of my hives swarmed last Friday, May 6, and the swarm now completely covers six frames. The parent hive was a swarm last season, and in September I replaced the queen with a young one. The stock came through the winter exceedingly well and strong. I am desirous of preventing swarming, as I have now as many hives as I can properly attend to, and, besides, being only a novice at the business. I noticed a fortnight ago this hive which swarmed was full of bees and brood, so I gave them a super, and previous to swarming this had been about a third filled with honey. Fruit bloom is very abundant in this neighbourhood, and I was hoping to be able to get some surplus, but this swarm has upset my calculations.

Four of my other hives are full of bees, and I have put supers on each, but I found on Fri-

day that every hive had queen-cells started, and in some were grubs.

I have cut out every queen-cell I could find. Is this right? as I do not wish for increase of stocks. The supers are all warmly covered with thick felt quilts.

Two of my most promising stocks are from bees saved in Hampshire last September from fumes of sulphur, and I made two hives from four skeps, and fed up as rapidly as the bees would take the food. Is it likely that the cause of my bees swarming so early, and making queen-cells is because I have fed them all from April 1 till I put section crates on? Do you think I overdid it? I may add each hive has ten frames, and except the two outside frames every frame is really full of brood, and all worker-brood except near the bottom, where drone-cells have been made and sealed over.

Drones have been flying from one or two hives for over a week.

As soon as I observe that any of the sections are about two-thirds full I intend to raise the racks, and place another empty one underneath. Am I doing right?—F. T., *Wimbledon.*

[No doubt stimulation has helped the bees forward. All you have done is fairly sound practice.—EDS.]

[3262.] Having so far seen no note in B.J. of any swarm this year, it may interest some of our readers to know that a frame-hive at "Joyce Hall," Betsham, swarmed on May 3, but returned to the hive. They came out again on the 4th and returned again. They issued again on Friday, the 6th, settled on a currant bush, from which I hived them—a good three gallons of bees. They have been very busy to-day. The parent stock had two racks of sections on one rack nearly finished with fruit-blossom honey; so it was very unfortunate, as all work is stopped in supers now. They would have been the earliest sections I had ever taken in this district.—E. E. SMITH, *Southfleet, May 7.*

[3263.] On Saturday last, May 7, a swarm came off a skep belonging to Mrs. Shore, Long Ashton, Somerset. This is the earliest swarm hereabout, and on looking at them to-day I found both stock and swarm in good condition.—G. W. K., *Bedminster, May 9.*

BEES IN HOLLOW TREE.

[3264.] In reply to R. C. V. (Puckington) (3237, p. 156) as to time of year I drove bees out of tree, as near as I can remember it was the latter part of May. There is not the least doubt that the earlier it is done the better, before the combs are full of brood, otherwise the bees will be very loth in leaving.

If you will allow me, I should like through your columns to thank Mr. Wells, of Eccles, for his reply by letter to me, in answer to questions I put to him respecting shallow frames under brood nest. I enclose you my letter to him, also his answer, and if you consider any part of it worth recording, you are quite at liberty to do so. Having only recently taken the B.B.J. and the *Record*, I have not been able to see if this subject has been introduced, and very little have I seen written about it in other papers. I should like your opinion, or those who have tried it to state if it has given satisfaction. I have found some who have tried and discontinued it, relying upon top supering to prevent swarming.

I have been thinking, why not introduce a crate of shallow frames under brood box, using queen excluder between the two to prevent queen from going down, leaving the bees to draw out the comb; when they have done so, remove crate, bees, and all on to the top. By that time I should think they (the bees) would have had their fill of comb building, and be quite content to go on gathering honey, instead of swarming. It seems to be acknowledged on all sides that, if they have a spell of comb building it removes their swarming propensity, and by cutting out all queen cells there would be no inducement to do so. As I am only a novice, I give my idea for what it is worth.—J. R., *Bacton, Stowmarket.*

[From the letters alluded to by our correspondent we extract the salient points referring to the subject dealt with, beginning with the query from Mr. "J. R." who says:—

1. Do you use shallow-frames under brood-nests of your Wells' hives to prevent swarming? 2. Do you fill with full sheets of foundation, and, if so, what time of the year do you take it away again? 3. In the following year, do you use the combs of this under-chamber for extracting from, and do you have any difficulty in getting the bees out of it? Some writers do not believe in this second chamber? 4. Do you find it answer? By answering these queries, you would greatly oblige one who is this year trying your pattern-hive.

In answering the above, Mr. Wells says:—

"In reply to your questions, I don't use shallow-frames under brood-nests of my hives. I use full sheets of foundation in every case. Nor do I remove it until drawn out and filled with honey, or at the end of the season. I have also no difficulty whatever in working my bees; but I presume, however, that your questions are based upon the use of a hive with shallow-frames under brood-nest, and as I have never tried the plan I cannot enlighten you.

When Mr. Ford brought out what he calls the "Ford-Wells Hive," he kindly sent me one so that I might give it a trial, but seeing that my own hives were so much simpler to work, I have never tried, it so it has stood just as I received it three years ago. But having been asked so many questions about this hive of late, I have now made up my mind to stock it and see how it worked, so I put two stocks into it last Saturday. I put drawn out shallow-combs under brood-combs,

as I thought it too early in the season to have so large a space filled with full sheets of foundation. When the season is more advanced I may be able to enlighten you a little.—Yours faithfully, GEO. WELLS.

WEIGHT OF WAX FROM OLD COMBS.

[3265.] In reply to Mr. Weston (No. 3235, B.J., page 155, April 21), I have weighed the wax rendered from combs taken from the body of hives at different times for some years, and the average weight of wax per comb obtained by melting in the oven over water, has been a trifle over $1\frac{1}{2}$ oz., or as near as it is possible to get to, 1 lb. of wax from ten combs.—WM. LOVEDAY, *Harlow, Essex, May 3.*

OUR WILD BEES.

(*Continued from page* 167.)

[3266.] Though in these papers, which appear every week or so, my endeavour is to limit myself to the wild bees likely to be taken about the time they are in print, the reader must perceive that it is not always possible to attain this object. And this is especially the case just now, when there are so many different species on the wing, and each fine day adds one or two to the number. A good deal depends, too, on the comparatively earliness or lateness of the season. An early season may bring a species of bee out a fortnight earlier than it is usually due, and in a similar way a very backward season would retard its appearance quite that period. The present spring, taken on the whole, has been a fairly normal one in this respect. Certainly everything was remarkably early in the latter part of February, but subsequent cool weather, with one or two really cold spells and severe night frosts, has righted all this, exercising a check on vegetation, in most cases necessary and beneficial, but which, if it had been delayed a few weeks, might have caused considerable disaster. Then again, the fact that one takes a common species here to-day in abundance is no reason why the same should occur everywhere else in the country at the same time; the further north one goes the less advanced one finds, not only the flowers, but also insect life. Other factors which retard development in the spring are altitude and proximity to the sea, especially on the east coast. But, besides all this, an insect may appear altogether out of its season for some unaccountable reason. I had an example of this the other day in the capture of a male of the bee *Osmia rufa*. This bee does not usually appear until the beginning of May, and I do not intend to bring it to notice until next week, yet here was a specimen of it in my net in the beginning of April!

It is important to note the date at which a certain species appears, and I would here strongly advise all who collect insects of any kind to attach little paper labels to their specimens showing not only the date but the locality of capture, and also the collector's name. It is astonishing what a help this information is in naming insects. It doubles, at least, the value of a specimen. An unlabelled specimen is something like a man without a character, and an entomologist may be quite unable to tell to what species it belongs on that account alone. Besides, should you know the locality and date of capture, a bee you have taken which turns out to be a rarity, you are in possession of the best means which will enable you to take fresh specimens of it another year. Frequently I have come across a rare kind of bee in some special locality too late to secure anything but worn and faded examples of it. I have made a note of the date, and the following year have looked out for it in the same spot a few days earlier in the season, and am then enabled to take a good series of specimens in really fine condition. Or perhaps only one sex of some rarity has been found. By diligent searching year after year in the same locality, and about the same date, the other sex is almost sure to turn up.

The label should be small, as the necessary information can be got into a very small compass. Mine are round discs $\frac{3}{10}$ in. in diameter, punched, like cartridge wads, out of good stout drawing paper. It can be written with an etching pen, but if a good deal of collecting is done in one district, much labour will be saved by having labels printed in small type, such as the following, which is an enlarged facsimile of one of my St. Margaret's Bay labels :—

A number of these labels are printed on a large sheet of paper. Suppose I took some specimens at St. Margaret's Bay to-day. All I should have to do would be to fill in the day and the month, thus :—"28.4," in the space provided before the figures "'98"—the work of a few seconds for a dozen, punch out the labels and run them on to the pins under the specimens, and all is done.

To turn to the wild bees flying at this date. With such numbers now on the wing almost everywhere, whenever the sun shows his face, one hardly knows where to begin in describing them. The greater number of them will still be *Andrenæ*, the males of which genus are so conspicuous in their almost ceaseless yet silent flight. The sycamore bloom should be coming out about this time, and when it is at its best each tree becomes a perfect focus of attraction to the *Andrenæ*, also to honey-bees, queen humble-bees, queen wasps, and many other insects. A light eastern breeze is often blow-

ing when the sycamores are in full bloom' making the air cold, so that one feels chilly the moment the hot rays of the sun are intercepted by a cloud. On such days the sycamores seem to be unusually favoured with insect visitors, which congregate only on the sunny side, this being also the side sheltered from the wind, and there is quite a crowd of solitary bees around each cluster of green blossom, which is simply sticky with nectar. Each puff of air sends the cloud off which returns again as soon as it has subsided. In collecting around the sycamores a special long stick should be fitted to the net. When the net is raised the wind will fill it and drive the bees into it, so that with a little careful handling the interior will in a few moments become full of a confused and struggling crowd which may be lowered and examined. This process may be repeated many times, and thus a great number of specimens may be examined in a short time, those that look rare or interesting being passed into the killing bottle. This is a very good way of getting acquainted with the bee-fauna of the neighbourhood for the time being, and many valuable specimens may be secured like this which would not probably otherwise be netted except after long and patient searching.

Some of the species already mentioned will be found to be among the commonest taken at the sycanoris, for instance, *Andrena albicans*, *A. rosæ* and *A. tibialis*, described on pages 129 and 137. Other species not so common would probably include *Andrena Gwynana*, *A. Nitida*, *A. Wilkella* and *A. Afzeliella*.

Andrena Gwynana is rather a small species. In the ♀ the face is clothed with black hairs, the thorax densely with fulvous brown, the abdomen sparingly with brown hairs on the first three segments, with black hairs on the apical ones, apical fringe black; the legs are black but the *scopæ** of the posterior tibiæ are bright fulvous. The male is smaller and has the face densely clothed with long black hairs. Length 8-10 mm. Abundant in the spring and again in August on the favourite plants. —F. L. Sladen, *Dover*.

(*To be continued.*)

Queries and Replies.

[2030.] *An Awkward Job in Transferring.*—I have become possessed of a hive in which —through mismanagement or no management at all—the bees have during the past year built the whole hive, roof and all, full of comb; the roof being fastened down. The stock is strong and heavy with honey. Will the bees transfer themselves to a new hive if it was set in front (the old hive having first been moved back so that new entrance comes where old one was), and a connection made into back of new hive from old hive entrance? I would place the back of new hive—previously prepared with full sheets of foundation—close up to front of old one. Any advice will be gladly received. I have had about a dozen years' experience with bees, but this is the first case of the kind I have had to deal with. I am afraid they have so much room if let alone they would not swarm.—T. T. M., *Sunderland*.

Reply.—There would be no loss of bees if the operations proposed are carefully carried out, but it is not at all certain that the "so much room" which would be likely to prevent swarming would not have a precisely similar effect with regard to the bees transferring themselves as desired. An inspection might, of course, alter our opinion, but we should be disposed to try conclusions with the mis-built combs first, and getting the roof off by hook or crook, and then shape our ultimate action according to how we found things.

[2031.] *Suspected Queenlessness.*—I examined one of my stocks to-day, May 7, and found it brimful of bees but I could see no brood. There are eight frames almost full of honey in the hive, and the bees are carrying in pollen every day. Do you think there is no queen or is she taking a rest? I tried to find her but failed. I am, however, only a beginner, and will be glad to know what is best for me to do?—W. B., *Durham, May 7*.

Reply.—If you are sure the combs are quite free from brood, the conditions stated rather point to some internal injury to the queen, such as rupture of the ovary, or damage sufficient to stop her powers of ovipositing. Had the queen got lost recently queen cells would have been started; or, if lost some time ago, and another reared before drones appeared, drone brood would be seen in worker cells, while the pollen gathering now going on shows that the bees are conscious of possessing a mated queen. Our conclusions may not be quite correct of course, because of inexperience, perhaps causing you to pass by signs that would soon clear up the difficulty to a practised hand. The best course will be to give a frame of brood and eggs from another hive, when, if the stock is really queenless, you will probably in two or three days see queen cells started.

Echoes from the Hives.

Hatfield Heath, Harlow, Essex, May 3.—The past month was one of the most trying April's for bees recorded on my memory. From reports I should say those bee-keepers who are fortunate in being on the south or south-east sides of London's hills of bricks and masonry do not feel the keen east winds as we do on this side. Frosts at night and keen winds and chilling storms by day were

* Pollen-collecting brushes.

the rule here all through April. Now we have had the much-needed warm rains, but the weather continues very unsettled, and strong stocks, now short of food in the hive, have to be kept going with the feeder. It was only by judicious stimulation that bees in exposed situations, as mine are, could be kept in good heart and make headway last month in preparation for the campaign now opening. —Wm. Loveday.

METEOROLOGICAL REPORT.

Fenloe, Newmarket-on-Fergus, Co. Clare, Ireland.

April, 1898.

Rainfall, 3·42 in.	Mean Maximum Temperature, 58·53°.
Heaviest fall, ·69 in. on 12th.	Mean Minimum Temperature, 39·40°.
Rain fell on 21 days.	Maximum Barometer, 29·98.
Maximum Temperature, 66°.	Minimum Barometer, 29·13.
Minimum Temperature, 30°.	
Frosty nights, 1.	

S. C. Hickman (Major.)

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this columns

A. B. C. (Slough).—*Suspected Honey.*—1. We cannot detect any flavour of "peppermint" in No. 1 honey sent. A slight minty flavour is known as a characteristic of lime honey, but unless your sample has been overheated or dealt with in some way after gathering we find no trace of the lime flavour about it. As a matter of fact, however, the flavour is not good, though the honey is genuine enough. 2. Members of the B.B.K.A. and its affiliated associations may obtain a chemical analysis of honey from Mr. Otto Hehner, Analyst to the Association, Billiter-square, E.C., on payment of half a guinea.

T. B. E. (South Norwood).—*A Beginner's Queries.*—1. If, as stated, bees cover eight standard frames the first week in May, it can be considered a fairly strong stock. 2. The full sheet of foundation given on the 7th inst. should be now examined, and if well drawn out with plenty of brood in cells, a second full sheet may be inserted any time when convenient. 3. Artificial swarms should not be made till the colony has nearly reached swarming strength, *i.e.*, when the hive is crowded with bees. Honey should also be freely coming in before operating. These conditions fulfilled, it may be done on any fine day when weather is warm. But you should not operate without being conversant with the full *modus operandi*, as given in "Guide Book," or failure may result. 4. You must not inquire "when is the time to put on super?" if intending to artificially swarm the bees. The two things don't go together. We cannot "have our cake and eat it," so the super must be kept off the stock altogether, and given to the swarm later on, if it should do well and honey is abundant. 6. The question as to getting surplus this year from your swarm is one that only the season can decide. 7. No.

S. H. (Ivybridge).—*Is Tan Smoke Injurious to Bees?*—If the "tan burner" is constantly in use, the smoke, if there be much of it, might have an appreciably detrimental effect on the prosperity of the apiary, but we do not think it would do more actual "injury" than this. But if the smoke is only occasionally troublesome, it may be disregarded.

A. E. J. (Penrith).—*Moving Bees by Rail.*—If the hives in which bees travel are properly prepared for the rail journey of fifty-three miles, they will go all right unless very roughly dealt with. It is, however, safer to send them in charge of some one who understands bees. Failing this, they should, if possible, be personally handed over by owner to the guard in whose van they have to travel by, or else to the porter, who can be asked to use care in handling.

M. P. (Durham).—*Spring Feeding.*—1. So far as quantity of food needed per week, less than one pint of syrup will suffice, but much depends on the stores left in the hive. 2. We shall be glad if you will name the page in Guide Book where the "sectional view of hive" mentioned appears. 3. We prefer frames hanging at right angles to entrance. Sorry your letter got mislaid for some days.

A. P. (Codnor).—*Making Artificial Swarms.*—If you possess a text-book on bees—as every one who hopes to succeed with them should—refer to it for full instruction as to making artificial swarms. If you possess no "Guide Book," refer to page 163 of B.J., issued a fortnight ago, where the information now sought is given.

Constant Reader (Shepton Mallet).—Comb is affected with foul brood. We should join the two affected lots if fairly strong in bees, as described sixteen lines from top of page 148 of "Guide Book," beginning at words, "If, on the contrary, the colony be still strong in bees."

T. R. P. (Plympton).—Comb is affected with foul brood.

A Worker (Methwold, Norfolk).—*Hive-making.*—There is no restriction as to anyone making the "Cowan" or the "W. B. C." hives either for sale or home use. Nor have the designers of the hives so named ever had any pecuniary interest in their sale.

*** *Several Letters are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words, Sixpence; for every additional Three words or under, One Penny.

EXTRACTED HONEY, 6d. lb, 30 lb tins. Sample 2d. LING, Shady Camp, Linton, Cambs. V 11

1 CWT. GRANULATED HONEY from my own bees. BIRD, 23, High-street, Daventry. Sample 3d. V 9

22ND YEAR. Pure BLACK BEES. Swarms 10s. 6d., 12s. 6d., 15s. ALSFORD, Expert, Blandford.

FOR SALE, about 150 lb. very good HONEY. LANSDOWN, Stow, Brampton Bryan, Salop. V 19

FOR SALE, 10 strong of BEES in skeps, 12s. each. Apply, 101, Princes-street, Ipswich. V 33

WANTED, SWARM of CARNIOLANS. Particulars, JAMES PAGE, High-street, Kinross, N.B. V 24

60 SLIPS White Rock or Arabis Albida for 1s., or mixed, Arabis, Borage, Chapman Honey Plant. GEO. BREALEY, Grendon, Northampton. V 15

HEALTHY STOCKS. Ten standard frames, 20s., in good hives, 25s. May swarms, 15s. Rev. JARVIS, Coleford, Glos. U 90

FOR SALE, 500 yellow BEDDING CALCEOLARIAS, cheap, in one lot, or exchange. Apply, G. THOMAS, Ponsonby, Calderbridge, Carnforth. U 92

FOR SALE, 1 dozen 2 lb. SECTIONS, well filled and sealed. What offers in cash or appliances? THOS. EVANS, Frederic-street, Waddesdon, Aylesbury. V 32

FOR SALE, THREE HUNDRED last season's 1 lb. SECTIONS HEATHER HONEY. Guaranteed pure, all from own apiary. Offers. MAJOR HEATHCOTE, New Forest, Ringwood, Hants. V 17

FOR SALE, THREE strong STOCKS healthy BEES, bar-frame hives, price £5 10s., with supers, lifts, smoker, &c., at Bickley, Kent. Particulars from MISS WOOD, care of Miss F. Reid, 1, Devonshire-terrace, Bayswater, W. V 23

STRONG, Healthy SWARMS, headed by prolific queens, 10s. 6d. each. Orders filled in rotation. LEMIN, 294, Hoe-street, Walthamstow. V 20

SWARMS from healthy stocks, book orders now, from 10s. 6d. Two straw skeps. Two frame hives for sale, cheap. What offers? DRAKE, Sutton, Ely. V 18

WILL EXCHANGE BICYCLE for BEES in bar-framed hives. JNO. DIXON, Broad Oak, Ebchester, Co. Durham. V 25

HONEYCOMB DESIGNS.—Send for Sketch of "Prince of Wales' Feathers," "Crown" or "Scotch Thistle." Apply, C. COX, Brampton, Northamptonshire. V 26

MAN seeks SITUATION. Practical beekeeper. Good straw skep maker. Would not object to gardening. J. S., 36, Temple-street, Manningham, Bradford, Yorks. V 27

SWARMS FOR SALE, 10s. 6d. each, or 2s. 6d. per lb. Address, FRED BARKS, Rempstone, near Loughborough. V 28

TOP SWARMS WANTED.—Exchange Perambulator, reversible hood, rubber tyred wheels, good condition. Cost £3. Also 12 photographer's vignette glasses Cost 15s. A. B. C., *Bee Journal* Office V 29

NATIVE BEES on standard frames. Strong, guaranteed healthy, eight frame stocks 16s. H. WITT, South Ascot, Berks. V 30

STRONG NATURAL SWARMS with '97 Fertile Queen 12s. 6d., and good second ditto, headed by '98 Queen 8s. 6d. Travelling case 1s. each. Guaranteed perfectly healthy. WOODS, Normandy, Guildford. V 31

PRIME Natural Early June SWARMS of my selected strain of English Bees, all 1897 queens, carefully packed and put on rail at 12s. 6d., larger 15s. (Telegrams Chieveley free.) W. WOODLEY, Beedon, Newbury.

FOR SALE.—BRITISH BEE JOURNAL, vols. 7 to 25 (1879-1897) cloth, good condition, clean, vols. 7 to 17, covers spotted. What offers? A. RECKITT, 12, St. James-terrace, Winchester. V 21

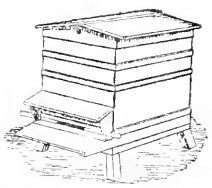
MUST BE SOLD owing to death of owner, several strong, healthy Hives of Bees. No reasonable offer refused. Vicinity. Eltham, Kent. Apply by letter, or after six p.m., J. RAVEN, 12, Finsbury-pavement, London, E.C.

Prepaid Advertisements (*Continued*).

FOR SALE, Country Cottage with lucrative business attached. Near Eastbourne. Large garden, nearly two acres pasture, excellent lodges, outbuildings, &c., together with a valuable old established trade in honey, bees-wax, &c., producing a very comfortable income. Price, everything, £650. MANAGER, The Southdown Apiaries, Bexhill, Sussex.

A. H. YOUNG,
The Expert Southport Apiarist,
FOR
Bee Hives, Appliances, & Comb Foundation.

Best Brood Foundation, 7 sheets to the lb., 1 lb. 2s. post free, 2s. 4d. Best Super Foundation, 13 to 14 sheets to lb., 1 lb. 2s. 9d., post free, 3s. 1d. Fine Sections, 50, post free, 1s. 6d., 100, post free, 2s. 9d. Fine Screw-cap Honey Jars, 2s. dozen, 23s. 6d. per gross. 9, Sefton Street, Southport.



G. H. VARTY,
Etwall, near Derby,
Awarded Prizes during 1897 for Bee Hives and Collection of Appliances at Royal Show, Manchester, Nottingham, Chester, Burton, Shrewsbury, and Derby.
Hives complete from 10/6 each
New Illustrated Catalogue post free.

H. N. BAXTER,
Sedbergh,
Bees, Honey, and Appliances.

DON'T GET STUNG,
when by using **APIFUGE** you can easily prevent it.
APIFUGE will also be found extremely useful for travellers in foreign countries where insect pests abound. Bottles 1/- post free.
S. E. CRIMSHAW, Beeston Hill, LEEDS.

J. TREBBLE,
Bee Appliance Manufacturer, Romansleigh, South Molton. Estd. 1877,
Is noted for Bees, Hives, Frames, &c. Any kind of hive frames made to order.
Devon Cottage Hive, standard body with 10 frames, W.B.C. ends, 2 dummies, 2 lifts, giving room for 2 racks of sections, or shallow frames (which telescope over body box in winter), rack of 21 sections, roof, and movable floor, on legs complete, 10s. 6d. Hundreds of these hives sold last year.

"THE SCOTTISH BEE-KEEPER."
No. 1 will be issued on Tuesday, May 17th.
All Bee-Keepers are invited to apply for a free specimen copy.
WM. ORMISTON, BIGGAR.

GLOUCESTER
is a very good Railway Centre for the West of England, so Bee-keepers living in this part of the country should try **E. J. BURTT,** who keeps a large and varied stock of **Bee Appliances** ready for prompt delivery.
EDWD. JNO. BURTT,
Bee Appliance Manufacturer, GLOUCESTER.
Illustrated Catalogue Free.

Editorial, Notices, &c.

SURREY BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual meeting of this association was held at the Royal Grammar School, Guildford, on Saturday, the 30th ult. In the absence of the president, Mr. W. Welch, C.C. (one of the vice-presidents), was voted to the chair, and among those present were Messrs. A. Seth-Smith, chairman of the council, E. Daw, J.P., F. S. Fletcher, G. C. Halahan, J. W. Lewis, Walter F. Reid, A. Watkin, and F. B. White, hon. secretary, members of the executive council; H. Macan, organising secretary to the Technical Education Committee of the County Council, G. E. Langrish, F. H. White, A. W. R. Sowman, H. H. Grist, E Dore, W. J. Hill, E. J. Hill, W. Hogsden, J. R. Aubry, F. Gilbert, and J. Ashford, Miss M. A. Robinson, &c.

The Chairman, in moving the adoption of the report and balance-sheet, said the report was, on the whole, very satisfactory; but the most satisfactory part—because it concerned not only that association, but the whole country—was that which referred to the successful way in which the association had dealt with foul brood. They knew there were still a few cases in different parts of the county, but the association was doing all it could to stamp foul brood out, and it seemed that members and bee-keepers generally were willing to aid the executive in any steps it might take. The balance-sheet was also satisfactory, the income being £25 10s. 10d. in excess of expenditure. They now had nearly 400 members—a position which the most sanguine of those who met in 1895 to reform the association could hardly have hoped it would attain in so short a time. Mr. G. Langrish seconded, and the motion was agreed to.

Mr. A. Seth-Smith, in proposing a vote of thanks to the Surrey County Council for the grant of £150, made for the purpose of carrying out certain educational work by the association, said if they had to depend wholly on the subscriptions raised from members of the association the executive council would not have been able to carry out the extensive programme it had arranged for, including experts' visits, bee-van lectures, and the circulation of the monthly journal to all the members. It was satisfactory to know that the agreement with the County Council for a grant of £150 had been renewed for the coming year. In thanking the County Council they wished especially to mention Mr. Halsey, Mr. Welch, and Mr. Macan, who had given them great assistance and very valuable advice. He remarked that the experts had commenced their work earlier that year, and hoped to be able to visit all the members. Mr. W. F. Reid, in seconding the motion, testified to the valuable assistance they had received from the County Council in keeping down that great enemy of bee-keepers, foul brood. Because, although the money which the County Council granted was only to be used for educational purposes, yet it set free a good deal of the subscriptions of members which would otherwise have to be devoted to that work. The vote having been cordially adopted, the Chairman said he was extremely glad that the agreement with the County Council had been renewed for the ensuing year. If they knew the demands that were made upon the County Council purse they would be more than pleased that the association had got £150 again. He believed itwas the wish of the Technical Education Committee generally that the bee-keeping industry in the county should be supported in every possible way. There was one advantage in making the present grant, namely, that it was not made to any one class, because among all classes, from the very poorest up to the most wealthy, they found bee-keepers.

The executive council was re-elected as follows:—Mr. Archibald Seth-Smith, the Revs. L. S. Kennedy and H. West, Messrs. R. C. Blundell, C. E. Cuthell, E. Daw, J.P., F. S. Fletcher, G. C. Halahan, J. W. Lewis, A. H. Miller, D. G. Norman, W. F. Reid, W. Sole, G. W. Walker, A. Watkin, T. Welham, and F. B. White. The meeting concluded with the usual votes of thanks.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

APICULTURAL NOTES.

[3267.] For a long time past, and until quite recently, the exceedingly dry weather has been causing great anxiety, and in some cases inconvenience and loss. The much-desired rains have, however, at last fallen in abundance, and everything now bears a most promising appearance. Fruit trees are in full blossom, so far unchecked by frost, which bids well for an abundant crop of fruit. There are also unmistakable signs of a heavy hay-crop. Cereals, too, of all kinds are in a flourishing condition, while the young plants of the root crop and other small seeds are appearing above ground in great profusion. The same may be said of clover, sainfoin, &c.; indeed, on all sides there are indications of a fruitful year.

I have examined the whole of my hives and am well pleased with their condition. A few gallons of syrup were given in the open before I had been through the hives, but beyond that no feeding has been necessary, and yet, notwithstanding the mild winter, the consumption

of stores has been smaller than I ever remember it before. This condition of things is to some extent attributable, I think, to the entire absence of any interference on my part during the winter and early part of spring.

My out-apiary was not visited for about six months, and out of forty-one stocks located there, thirty-nine came through well, one being queenless and one robbed. At the end of April a good number of these stocks were on ten combs, some of the strongest being crowded on twelve. This thoroughly convinced me that the best way to winter bees is to leave them undisturbed with plenty of natural stores.

A good number of old combs have been removed both at my home and out-apiaries, and new ones are being built in their stead. All colonies were making such progress that at the end of April it looked as though swarms would be plentiful early in May. But for the last fortnight, the weather being showery, dull, and somewhat cool, it has put a temporary check on the bees, and present indications seem to show that swarming will not be at all general until June. No time, however, is being lost in getting everything in readiness. New hives have been made, and those previously used thoroughly cleansed and repainted. Frames in large numbers have been made up, wired, and furnished with foundation, and supers are being prepared for use, all of which will be required as soon as warm weather sets in.

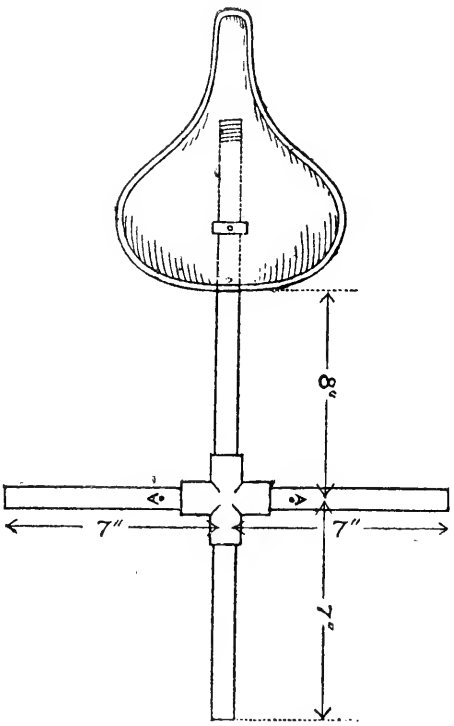
I am much obliged to your correspondent "F. E. I. S." (3253, p. 173) for the compliment he has been good enough to pay me, and so long as my letters have been "a source of pleasure," I have no objection to adverse criticism, nor do I think any the less of those who take exception to what I *advocate*. But, judging from the tone of the letter referred to, and other correspondence in your columns during the past few weeks, there seems to be some slight misunderstanding with regard to the position I have taken up in reference to ready-built combs. I have never advocated nor in any way countenanced the breaking up of partly-filled sections that have been filled in the month of July when there is a prospect of getting such sections completed during the month of August. The system I am now preaching in favour of, is to break up all partly-filled sections at the *end* of the season; starting the following year with new sections filled with new foundation. My reasons for adopting this course are clearly stated in previous letters on the same subject. But although so strongly in favour of the plan here advocated, I have never recommended the unconditional breaking up of combs used for the production of extracted honey, as my "Notes" on "Combs for Extracting" (3163, p. 63) will show. I have, under certain conditions, advised the saving of them—and, as a matter of fact, have some hundreds of such combs, all clean and white, which have been in use several years, and so long as conditions are favourable, I shall keep and continue to use them.

It may be asked why I break up sections and not extracting combs? The two cases are entirely different. In the case of extracting, it is the *quality* of the honey that has to be considered; the appearance of the combs, the way they are filled and sealed, being of but little consequence. But with sections everything must be clean and beautiful, without spot or blemish; in short, it must be as near perfection as possible. And I have every confidence that when the modern make of foundation is better known and its good quality more fully appreciated, and the requirements of the sectional honey trade is properly understood, that the "heretical doctrine" which I have advanced will have innumerable followers.—ALLEN SHARP, *Brampton, Huntingdon.*

DRIVING BEES.

CARRYING SKEPS OF DRIVEN BEES ON BICYCLES.

[3268.] Some time ago I promised to send photo of an arrangement whereby I am enabled to carry three skeps of bees on a bicycle, and in now fulfilling that promise I send photo



showing skeps attached. The attachment consists of a cross frame made up of ¼-in. gas pipe. At centre of the cross is a four-way

piece, into which the members are screwed. The long end of the cross is passed through the saddle pillar and fastened with a nut on the front end as sketch. Under the points AA two spikes about one inch long project, which prevent the skeps working along towards the wheel and thus running danger of getting the cheese cloth rubbed into holes. The top skep is fastened on with ordinary wire driving-irons, except the front one, which has one of the points turned at right angles to its former position, and bent up to hook round the pipe. This one is used next the saddle. The other

three are used by sticking one point into each end of the tube, and the other into the skep, taking care to press the skep well down before pushing the point into the straw. The skeps to be used at the side have stout string loops sewn in about 90 deg. apart, and in fixing these a long piece of string is used. This is first tied to the pipe which projects to the side on which the skep is to be fixed, then through first loop and round back fork and back through loop, on to the next loop and round back fork lower down; then right round skep and fasten to pipe again. If tightly tied the skeps will travel quite safe and the two bottom ones stiffen the whole thing, making it travel with very little rattle. The whole apparatus need not cost more than 2s. 6d. to 3s. D. G. Ilminster.

[We are very pleased to give insertion for so useful a contrivance as that of our correspondent, who, being himself a cyclist and a bee-keeper, knows exactly how to apply the means to the end desired.—Eds.]

SPREADING BROOD.

[3269.] As there has been some discussion in your columns lately about that much-vexed question of "brood spreading," I should like to vindicate my method of treatment last year. When I wrote last spring advocating the practice—which was recommended in former editions of the Guide Book—I remember I got rather severely handled for my pains, so it is with fear and trembling that I venture to return to the attack, my chief reason for doing so being the singular success which attended my operations. I commenced the year with six stocks, which I brought to a very forward condition by early feeding and spreading the brood (about once a week), beginning the latter about the middle of April. I have kept bees for some years, but the way those stocks increased fairly astonished me, and the spring, it will be remembered, was not altogether a favourable one. The net result at the end of the season from those six stocks, together with four swarms which I purchased, was close upon 5 cwt. of honey, mostly in sections, and not a frame of honey from the brood-chamber was touched, leaving ample stores for winter. My ten stocks this year are not nearly so forward, and this I attribute to the brood not having been spread through my absence from home. Mr. H. W. Brice—who is an authority—says in B J. of March 17 last (p. 103) that foundation inserted in the centre cuts the brood nest in half. But last year I found that, twenty-four hours after insertion, nearly every cell on both sides of the upper part of the foundation inserted had been partially worked out, and contained an egg, and no stocks of mine had ever increased at such a rapid rate before.

I maintain that the most effective way to enlarge the brood-nest—and enlarge it one must in order to obtain forward stocks—is to insert a half frame of foundation in the *middle* and not at the sides of the nest. The heat is thus radiated from the centre, and the brood kept from being chilled, especially if an enamel quilt and plenty of warm coverings are put on above. I quite admit that spreading brood is only safely done with strong stocks, and what one person considers weak another might consider strong.

The way I help a weak colony is to take out the comb of foundation when worked out and filled with brood, and insert it in the centre of the weak one, putting an empty frame of foundation it its place, in the strong one. This delays the strong stock a little, but gives the weak one a wonderful spurt, and stops anything like spring dwindling. This is my method of working, and it must be taken for what it is worth, but it certainly paid last year.—E. H. O., *Worcester*, *May* 12.

[As was explained in our footnote to the letter referred to as appearing last spring, the operation of spreading brood—though admittedly most advantageous in practised hands—has been productive of so much mischief

among bee-keeping novices, that it was deemed advisable to omit all mention of it in the later editions of the "Guide Book." Moreover, we have invariably discouraged the practice among beginners in these pages, and in view of the lamentable results—brought to editorial notice—which have followed, we should be unfaithful to our trust as advisers if we failed in urging this precaution. On the other hand, we never hesitate to speak or write of the success we have personally secured by spreading brood, or of the benefit to be derived from it if every one possessed the natural aptitude of our reverend correspondent.—EDS.]

BEES AND BEE-KEEPING IN INDIA.

APIS DORSATA.

[3270.] Having also recently been permitted to inspect the book and papers referred to by Mr. Till (3251, p. 171), I shall be glad if you will allow me to add a few remarks to those already made on the above subject.

It appears that at the time when Mr. J. C. Douglas was seeking information *re* bees and bee-keeping in India, he, at the instance of the Indian Government, drew up three questions, which were sent to the Forest and other officials, and were as follows:—(*a*) What quality of honey is produced in India, and how is it disposed of? What price is realised on that sold or exported, and how is the remainder consumed? Is there any demand for honey, and is any imported?

(*b*) Are bees domesticated in any part of India, and is there any information available of the habits, yield, habitat, mode of harvesting, &c., of the wild bees? Probably the Forest Department could give valuable information?

(*c*) What are the varieties of bees indigenous to India likely to prove valuable if domesticated? Do they resemble the Black, Italian, or other European variety, and how are the habits of the insect altered by the climate of the plains of India as compared with the habits of bees of colder climates?

To the first question, the answers, although coming from different parts, seem very similar. There is a fair yield of honey for India from wild bees; but where *hives* were worked on scientific principles, the average could be increased; while the uses to which honey is put are most interesting, such as for anointing the gods in the temples; for medicinal purposes (used largely); for food, &c.; and is used much at marriage and other festivals. Most honey is obtainable before the larvæ pass into the nymph stage. One official falls into the error of supposing that "the honey is conveyed on the legs."

Apis indica is the only native bee which at that time was domesticated (I am not speaking of those introduced later), but even these bees would occasionally desert their new homes if disturbed within three days of being hived. Different writers speak of from three to seven varieties of native bees in India, but all seem agreed that *Apis dorsata* (mentioned in nearly every paper under a native name) cannot be domesticated on account of its intractable nature. Among other things—(1) It is said to be exceedingly vicious—often attacking men and beasts on the slightest provocation; (2) It preserves the same habits and appearance wherever its habitat; (3) Has never been known to build its nest under shelter, but mostly on the most isolated and lofty trees, and over-hanging rocks; (4) When they desert trees and combs of the season they frequently travel for a week or ten days, to distances over 100 miles, even crossing such mountains as the Uilgiris in their migration; (5) Build single combs; (6) Are used to approach from north, south, east, and west; (7) Rarely remain in the same locality for more than three months at a time; and (8) Emigrate when flowers become scarce.

An attempt was made to cultivate this bee, and appears to be the only one on record. When a queen was tied by thread to a stick and placed in the hollow of a tree, and after two or three months a piece of comb about the size of an egg was found, the experiment was then abandoned. Of the combs only one-third produces wax, the other two-thirds refuse. I have not attempted to do more than give you a short survey of these papers, published in 1884, as they apply to the present enquiry on foot. The Rev. T. Mayer is still living in India.—R. HAMLYN HARRIS, F.E.S., *Hambrook, Bristol, May* 12.

(*Correspondence continued on page* 196.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

The apiary or bee farm depicted in the illustration (p. 195) belongs to the firm of Messrs. T. B. Blow & Co., and is situated about twenty miles north of London, at Welwyn, Herts. The extensive appliance trade connected with the apiary was established about seventeen years ago—and has been successfully continued since—by Mr. T. B. Blow, who, having now disposed of his interest in the concern, spends a good deal of his time abroad. The view reproduced will be a familiar one to travellers going northward on the G.N.R., being located on the left-hand side—close on to the main line about four miles beyond Hatfield—known as the Marquis of Salisbury's stopping-place for Hatfield House. The rising ground on the left of photo is part of the railway embankment, from which a siding runs into the hive works.

In the lower portion of the grounds stands a substantial dwelling-house built by Mr. Blow—along with neat cottages for his work-people—when he purchased the property some years ago. It is now occupied by Mr. E. H. Taylor, now at the head of this extensive bee-establishment.

The figure seen in centre of the higher land above the bottom row of hives in foreground, is that of Mr. Taylor himself, who in response to our request for some particulars to go along with picture, says:—

"Our apiary consists of over 200 hives, the actual number necessarily varying as colonies increase on the one hand or are sent out to nearly every country in the world. We think it is safe to claim that it is the largest apiary in England. Located at Welwyn, Herts, the hives are placed on a gentle slope, a river running at the bottom of ground, from which bees get a plentiful supply of fresh water. It faces due south, and is so protected by the high bank of the G.N.R. that bees may be seen flying comfortably about when almost a gale is blowing from the west or north-west.

"The beds are laid out in horseshoe fashion, with gravel paths, the hives being placed backing thereon, so that all bee operations are done from the rear. The whole ground (about two and a half acres) is covered with thousands of young fruit trees, and in course of a few years it bids fair to become a fine fruit orchard. The flower-beds are sewn with such bee plants as borage, candytuft, mignonette, wallflowers, &c., and in May, when nearly all are blooming at once, the mass of flowers gives the place a very gay and bright appearance. The apiary is solely worked for raising different races of bees and queens, and not for honey producing (it being found impossible to work both together) along with a large manufacturing trade in the shape of all appliances used in modern bee-culture.

"While the hives seen contain Italians, Carniolans, and English bees, the majority are a hybrid cross between the English and Italian varieties, experience apparently showing that this hybrid is best adapted to our climate. We intend to import some Tunisian bees during the coming year direct from a large apiary in Tunis, fitted up with 300 hives by us last autumn, and where we have sent out one of our experienced hands to manage it, assisted by Arabs, who, from reports since received, appear to be a lazy lot and very fond of eating the brood."

MR. T. E. BLOW'S APIARY, WELWYN, HERTS.

Considering the difficulty of introducing so large a number of hives into the picture—while giving some idea of the general contour of the surrounding ground—the photo is very successful, although it necessarily cuts off the residence of the proprietor, as well as the pretty Swiss chalet occupied by the founder of the

firm, Mr. T. B. Blow, when that gentleman happens to be in England.

In concluding his remarks, Mr. Taylor says:—"Considering the size of the apiary and the works, the site, the plan on which the 'bee-garden' is laid out, and the whole surroundings, I claim it to be a model apiary and Home of the Honey-Bee."

CORRESPONDENCE.

(*Continued from page* 194.)

HONEY GINGER NUTS.

[3271.] I send you a sample of home-made honey ginger nuts. To those who cannot eat the ordinary article, but who are fond of that particular sort of confectionery, I think they are a treat. I send you the recipe from which sample was made.

I have lately tried "Lordswood's" recommendation of his "Melpop." It is manufactured in the ordinary way that home-made ginger beer is made, but substituting some old skep honey for the sugar. "It's a gran' drink," as the brawny Scot said of his native "whusky," only it differs in several respects; but it is far and away above the level of the ordinary ginger beer.—J. W. S., *Melksham, May* 16.

HONEY GINGER NUTS.

Flour, 1¼ lb.; honey, 1 lb., warmed; cane sugar, 2 oz.; butter, ¼ lb.; ground ginger, 1 oz.; candied peel, 1 oz.; one good teaspoonful of bicarbonate of soda dissolved in a little lukewarm milk. Rub the butter into the flour, add the sugar, ginger, and candied peel (chopped fine); then add the honey, and last of all the bicarbonate of soda, mixed with enough lukewarm milk to make the mixture into a rather stiff paste. Roll out, cut into shapes with a small glass, and bake on a tin sheet in a quick oven.

[After tasting the "sample" forwarded, we have no hesitation in saying they are by far the nicest honey-cakes we have yet tasted.—Eds.]

BEES DYING OFF.

ARE RHODODENDRONS AND LAURELS POISONOUS?

[3272.] In issue of B.J. of May 5 (p. 177), in reply to "W. T. J.," you ask for information about bees being poisoned by rhododendrons and laurels, and I therefore send you an account of the bees here, which, I think, proves that such a thing never happens.

The bees here have quantities of rhododendrons on three sides of them. It would be a moderate estimate to say that there are 3,000 bushes within half a mile of the hives in the park, with masses close to the hives, besides a considerable number of both common and Portuguese laurels. The rhododendrons in season are a mass of bloom, and the bees should be poisoned wholesale, but as a matter of fact there are seven strong hives at present, the descendants of two or three box-hives got in 1865 (no new bees having been got since), and as a rule they have given a good surplus of honey, although much neglected.

My own bees, now here, have done excellently for four years within three-quarters of a mile of these rhododendrons and laurels, and I do not think that bees work on either. I can say nothing about azaleas, as I have not more than a dozen plants.—A Dumfriesshire Bee-keeper, *May* 9.

[We are glad to have the above confirmation of the view generally accepted among practical bee-men, viz., that no harm results to bees kept within reach of the flowers of rhododendrons and laurels. Besides, the letter of our correspondent, "J. B." (3259, p. 185), seems to point strongly to arsenic solution used in spraying fruit trees as the probable cause of the bees dying off as stated. —Eds.]

THE LAW OF OWNERSHIPS IN SWARMS.

[3273.] I can sympathise with your correspondent "Trentside" (3255, p. 176) as I have also had a similar neighbour. One of my swarms clustered low upon some of his raspberry canes, and when I went to hive them he kicked the bees over me and then ran away. I naturally got several stings myself in consequence. However, I lost no time in consulting a solicitor on the matter, and he quoted to me several clauses of the law bearing on bees, of which he said some were very ancient but still "law." According to one view, he said if any one interfered with another person's bees when the latter was properly claiming them for the purpose of hiving the bees, the party interfering was considered a trespasser, even in his own garden. Then he also said, as you have often stated in the B.B.J., that so long as the swarm is kept in sight by the owner, or some one representing him, the bees are his. In one case referred to as a precedent, the judge had expressed the opinion that a bee-keeper can follow his bees anywhere without being a trespasser, as long as the pursuit is not a difficult one. This solicitor also gained a case for a bee-keeper who was troubled with an unfriendly neighbour who took it into his head to pour boiling water over a clustered swarm belonging to the bee-keeper mentioned. Another solicitor having advised the offending neighbour, who told him to compromise at once if he possibly could, as a case like his would probably cost him £60, or even more if contested, he went and settled the matter, though I do not know what sum the bee-keeper got by way of damages for his lost swarm. In my own case, however, I had £3 3s. sent from my solicitor within a week for my damages, and, let me add, I did not lose my bees entirely either, for I went and hived them about a quarter of an hour after the "kicking over"

business took place, and gathered up a fair quantity of the bees and took them home at once.—A. B. B, *May* 6.

OUR WILD BEES.

(*Concluded from page* 188.)

[3274.] *Andrena nitida* is a large and fine species; the face is clothed with white hair, the thorax densely with bright fulvous hair, abdomen shining black, very sparingly clothed with white hair, which is more conspicuous in the ♂; on the underside the hair is white in both sexes. In the ♀ the posterior tibiæ are clothed with black hairs above, greyish below, and the fringe at the apex of the abdomen is almost black. Length 12-14 mm. Common on dandelions, &c., in many places during April.

Andrena thoracica differs from *A. nitida* in having the hairs on the face, abdomen and underside black, not white. Common in some places, but I have taken only one male at Ripple so far.

Andrena Wilkella and *A. Afzeliella* are two rather small species which are closely allied to one another. On the head and thorax the hairs are short and pale brown in colour, turning to white in worn specimens; the abdomen is shining, all the segments except the basal one with apical bands of white pubiscence, those on the second and third segments interrupted in the middle; legs clothed with pale hairs; in the ♀ the posterior tibiæ and tarsi are testaceous, the scopæ being pale golden, the fringe at the apex of the abdomen being also pale golden. Length 9-11 mm. Common throughout spring and summer; often stylopizied. In *A. Wilkella* the ♀ has the wings yellowish and the ♂ has the antennæ longer than in *A Afzeliella*. I generally take *A. Afzeliella* commonly up to the end of September, when it occurs on marjoram and late red-clover.

The most common and in many ways, perhaps, the most interesting genus of our inquiline bees, namely, *Nomada*, is now likely to throw some of its representatives before the collector's eye. In general outward appearance it is scarcely possible to imagine insects more dissimilar to ordinary bees than the *Nomadæ* are. No doubt they have been taken repeatedly for small wasps by those who are not well acquainted with them. To enable the reader to recognise these bees I give below a sketch of a common species, *N. succincta*, which may be regarded as a fair type of the genus. A glance, however, at the mouth parts (which may require extracting with a needle) will at once settle any doubtful capture, as a bee's tongue is unmistakable, and in the *Nomadæ* it approaches the very distinct form characteristic of the family *Apidæ* (see fig. 2, page 87). The true wasps (*Diploptera*) may be known from *Nomadæ* and, in fact, from all other insects by the fact that the fore wings have a longitudinal crease or fold when they are in a position of rest. The word "*Nomada*," which signifies *a wanderer*, is a good name for these bees, on account of the cuckoo sort of life they lead, searching for the nests of other bees in which to deposit their eggs. The females, therefore, are unprovided with any pollen-carrying apparatus.

It was once thought that most of our species of *Nomada* were parasitic on the *Halicti*, but it has now been proved that they associate chiefly with *Andrenæ*, each species of *Nomada* limiting its attacks to one or to one or two species of *Andrena*, and there are reasons for believing that the genus *Nomada* is closely related to *Andrena*. There are, however, several well-known exceptions to this general rule. *Nomada sexfasciata*, one of the largest of our British species, associate with *Eucera longicornis*, and I have myself taken a minute species of *Nomada* around the burrows of a small *Halictus* in the Himalayas.

In the genus *Nomada* the second joint of the antennæ is exceedingly short; in the male it is often scarcely discernible. In making out the species too much reliance must not be placed on the yellow and red markings, which may vary considerably in individual examples of the same species. The most important specific characters lie in the shape and colouring of the face and antennæ, and in the shape of the spines at the apex of the posterior tibiæ.

There are four species of *Nomada* that are common in the spring. These are *N. ruficornis*, *N. alternata*, *N. succincta*, and *N. Fabriciana*.

Nomada ruficornis.—The ♀ of this species has the head and thorax black, with ferruginous red markings, which on the mesonotum of the thorax take the shape of four longitudinal stripes; the abdomen is red-brown, each segment, except the basal one, having a pale yellow spot on either side, the spots becoming more or less confluent, especially towards the apex of the abdomen. The ♂ differs in having the mesonotum entirely black, and the pale yellow markings on the abdomen form broadish bands. Length, 8 to 12 mm. Common on grassy banks, and flying around ornamental shrubs in gardens, &c., in the end of April and beginning

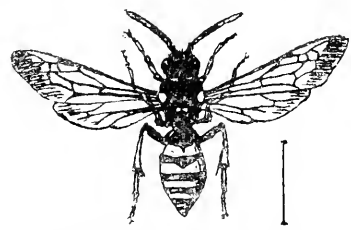


Fig. 6.—*Nomada Succincta* ♂. Black and yellow, legs and apex of antennæ pale orange.

of May. Associates with *Andrena fulva* and other species of *Andrena*.

N. alternata and *N. succincta*. In both these species the abdomen is black with pale yellow bands. In *alternata* the bands are

interrupted by a black bar in the middle on the first, second, and generally also on the third segments, and the tegulæ (fig. 3, p. 87) of the wings are ferruginous. In *N. succincta* the yellow band on the basal (or first) segment only is interrupted, and sometimes this even is entire; and the tegulæ are pale yellow. Length, 9 to 13 mm. Both species are common in similar situations to *N. ruficornis*, and they are parasitic on several of our common *Andrenæ*.

N. Fabriciana has the head and thorax entirely black with no yellow markings, the antennæ are black, and in the ♀ orange-red in the middle and again at the extreme apex; the abdomen is red, its base and the apical margins of the segments being black, the second and third segments often have small yellow lateral spots. Length, 7 to 9 mm. Frequent from end of March to May, occurring again in July and August. No doubt parasitic on *Andrena Gwynana*.

Amongst rarer *Nomadæ* which should be looked out for at this time of year may be mentioned *N. bifida*, which has the mandibles bifid; *N. ochrostoma*, in which the mandibles are truncate, or appearing as if cut off at the tip. Both these species otherwise closely resemble *N. ruficornis*.—F. W. L. Sladen, *Dover, April* 21.

Queries and Replies.

[2032.] *Transferring Bees from Skeps to Frame Hives.*—1. I have a stock in a straw skep which I have placed on a frame hive to get the bees to work down into it. As soon as brood is found in the frames of lower hive I intend moving the skep, with what bees remain in it, to another part of my garden, and then with the flying bees I hope to have a decent stock in frame hive. I am thinking of getting a virgin queen and introducing to the queenless half. Had I better wait three days before introducing should the half which will contain the old bees be queenless? 2. I have six stocks, and am inclined to try either an Italian or Carniolan queen. Would either crossed with a native drone produce quiet workers, and which do you recommend for comb-honey production? Bees are looking well in this district, but the weather all this month until to-day has been very bad—cold nights and heavy rain.—Tryon, *Liskeard, May* 14.

Reply.—1. The plan proposed would probably end in failure, so far as the skep is concerned, seeing that most of the nurse-bees will have gone below, and all the flying workers will return to the old stand. Don't try it. 2. Sometimes hybrids raised as proposed are quiet to handle, Italians being best.

[2033.] *Killing Queen to Cause Return of Swarm.*—In the event of a swarm coming off a frame-hive, if I search for and kill the queen, will bees return to hive and *to work?*—G. H., *Colchester, May* 14.

Reply:—The bees will undoubtedly return to the parent hive if queen be killed, but it is almost certain that they will again swarm, nine or ten days afterwards, headed by the strongest of the young queens left maturing when the top-swarm came off. The only way to prevent the re-issue of swarm is to remove all queen-cells save the best one.

[2034.] *Tilting Hives Forward with Frames Parallel to Entrance.*—Last year I started bee-keeping with a swarm which I hived in a frame-hive, but in fixing up the hive I tilted it too much forward; consequently, I find on examination this spring, that I have two brace-combs and one comb fixed to the front of the hive and one to the bottom of the dummy, making the frames in hive practically immovable. Can I in any way cut combs and place hive level, so that the bees will never join them again?—W. T. R, *Cricklade, May* 8.

Reply.—The bees will not join the combs again or build brace-combs, if you are expert enough to sever the attachments, and then so cut the combs that they can be forced back within the rectangle of frame containing them. This done, the hive must be set *perfectly level*, according to the way the top bars of frames run. Bearing in mind that bees build their combs according to the law of gravity, and—no matter how true or how much "on the slant" (to use a colloquialism) the side bars of the frame may hang—the comb is suspended in a true perpendicular line from the top bar, and without any regard to the side bars. The mischief detailed above illustrates the danger of advising that hives be "tilted forward," an error we have never fallen into since assuming the responsibilities of editorship. In the hives we use, and much prefer, there is no such risk, because the frames are hung at right angles to the entrance; consequently, no harm follows the act of raising it in the rear; but beginners often read the advice given by some "authority," about tilting the hive up from the rear, to apply to all hives, no matter how the frames hang; hence the mischief mentioned.

Bee Shows to Come.

June 7 to 10, at Portsmouth.—Hants and Isle of Wight B.K.A., in connection with the Royal Counties Agricultural Society. Schedules from E. H. Bellairs, Wingfield, Christchurch.

June 20 to 24, at Birmingham.—Royal Agricultural Society's Show. Letters relating to Bee Department to be addressed, E. H. Young, Secretary, B.B.K.A., 12, Hanover-square, London, W. **Entries closed.** Post entries to May 14 by extra fees.

July 6 and 7 at Hanley, Staffs.—Horticultural Fête. Medals and liberal prizes for honey. Schedules now ready. Apply J. B. Barrow, Town Hall, Hanley.

August 17 and 18 at Dover.—In connection with the Dover Horticultural Society at Dover College Grounds. Additional open classes. Increased prizes and medals. Schedules from H. W. Brice, Hon. Sec. Kent and Sussex B.K.A., Dale Park, Upper Norwood, S.E.

Echoes from the Hives.

Wotton-under-Edge Glos., May 10.—Just a line from our district by way of echo. I have to report first swarm of 1898, "so far as comes under my ken," as our Scotch friends say. Yesterday, May 9, being hot and thundery, bees were generally lively. One hive swarmed, said swarm taking up temporary quarter not very suitable (though "sootable") in chimney of the bedroom, and much disturbing the good wife's peace of mind, for on retiring to rest at peace with all men, she found her chamber in possession of "those dratted bees," said bees making the place "hum" generally in a style for them quite homelike.

Bees in this district now doing well, forage being plentiful and varied—fruit, apples, dandelion, sycamore, &c. Supering is thus the order of the day, and preparing same "where not ready" the disorder of the night, often far in to "wee sma' hours. We are getting the upper hand of foul brood in our district now. Grateful thanks to "Lordswood" for his most interesting and instructive papers.—From A Double Yew Lance.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Beginner (Filey, Yorks).—1. Young bees can only be distinguished by their grey, downy look. You will be able to pick them out readily after a little experience. 2. The "substance" you noticed them carrying into the hive is pollen; but beginners sadly need a "Guide Book" to fully inform them of all these particulars. It is like groping in the dark to try your hand at bee-keeping without a text-book for guidance. 3. Where does the letter referred to appear? You should always quote page for reference.

X. X. (Carlisle).—*Quality of Honey.*—We are quite unable to give any opinion as to the honey referred to from details given. How it is possible for a thick cake of wax to be found on the top of re-melted honey that was perfectly clear before granulating, we cannot conceive. However, if you will kindly send on the sample with the cake of wax referred to, we shall be very pleased to try to diagnose the case.

W. J. I. (Birmingham).—*Swarms by Parcel Post.*—If you have had no previous experience in hiving swarms, and desire to keep the bees in a frame hive, we could not fully inform you in this column "how to act on receipt of same," except to say that the bees must be thrown out on to a cloth spread on the ground and allowed to run into the frame hive, prepared beforehand to receive them. On the other hand, if the swarm your friend proposes to send be in a skep, and intended to remain therein, it will only need setting up on its stand, and protecting from the weather. In any case it is advisable for any one starting bee-keeping to procure a small text-book on the subject, and in the Guide Book which may be had from this office full illustrated details of how to hive swarms are given. Referring to the proposal to "send the swarm by *parcel post*," that mode of conveyance is entirely unsuitable in forwarding swarms. They should go by rail as a parcel, and be properly secured either in a skep or, better still, in a properly made swarm-box.

A. H. (Alresford).—*Wax Moth in Combed Sections.*—The comb in section received has been infested with but a single larva of the moth, and its depredations are of so slight a character that the bees would soon repair them. The three or four specks are not eggs, but the excrement of the larva, and will be removed by the bees. In fact, if all the partly built-out sections have such beautifully clean white comb as that sent, they will be very useful for giving as early surplus-room.

E. L. (Leeds).—*Bee-keeping Partner.*—We are unable to give the information asked for, but it is more than probable that a small advertisement in our "prepaid" column would secure you replies, from which the most suitable could be chosen.

A. B. (Salisbury).—*Joining Weak Stocks.*—1. You must have failed in carrying out the uniting process properly, if, as stated, queen-cells were found on the combs seven days after joining the two weak lots, because this means the death or disappearance of both queens. 2. Queen sent is apparently getting aged, but it was not quite wise to remove her from No. 3 hive and substitute a frame with one of the queen-cells thereon. 3. It is, of course, quite possible that queens may hatch out from both cells and get mated all right, but the chances against it are not few, in view of all you have told us.

V. Halbout (Nantes, France).—1. We are not aware of any British or American book dealing with the chemical analysis of adulterated beeswax. 2. Buckwheat is by no means abundantly grown in Englnnd. We have seen a few acres of it in Hunts, and think it is grown in one or two other of the Midland counties, but we are not sure. 3. Gingerbread is certainly growing in use and favour in this country of late years.

Novice (Slough).—Comb received is very badly affected with foul brood.

M. P. (Durham).—*How Frames should Hang.*—In the hives depicted in "Guide Book" on pages (36 and 38) referred to, the frames hang at right angles to entrance, and this is how we prefer them.

*** *Pressure on our space again compels us to hold over remainder of "Useful Hints" and several Letters, Queries, &c., till next week.*

Special Prepaid Advertisements.

Twelve words, Sixpence; for every additional Three words or under, One Penny.

HEALTHY STOCKS, Ten standard frames, 20s., in good hives, 25s. May swarms, 15s. Rev. JARVIS, Coleford, Glos. U 90

STRONG, Healthy SWARMS, headed by prolific queens, 10s. 6d. each. Orders filled in rotation. LEMIN, 294, Hoe-street, Walthamstow. V 20

HONEYCOMB DESIGNS.—Send for Sketch of "Prince of Wales' Feathers," "Crown" or "Scotch Thistle." Apply, C. COX, Brampton, Northamptonshire. V 26

SWARMS FOR SALE, 10s. 6d. each, or 2s. 6d. per lb. Address, FRED BARKS, Rempstone, near Loughborough. V 28

NATIVE BEES on standard frames. Strong, guaranteed healthy, eight frame stocks 16s. H. WITT, South Ascot, Berks. V 30

FOR SALE.—NATURAL SWARMS 10s. 6d. and 12s. 6d., according to weight. Foul brood unknown in apiary. C. H. HAYNES, Hanley Castle, Worcester.

MAN seeks SITUATION. Practical beekeeper. Good straw skep maker. Would not object to gardening. J. S., 36, Temple-street, Manningham, Bradford, Yorks. V 27

COMPULSORY SALE.—Twenty strong, healthy Stocks in strong frame hives. Cheap. J. BOWES, Appleton-le-street, Malton. V 34

QUEENS, Stocks, Nuclei, and Swarms. Queen raising a speciality. Eleventh season. Address, Rev. C. BRERETON, Pulborough, Sussex.

SWARMS of English Bees 2s. 6d. per lb. Packing box 1s. or returned. E. GARNER, Broom, Biggleswade, Beds. V 35

FOR SALE, four strong SKEPS of BEES, 12s. each. Orders received for Swarms, 10s each. W. DUNNING, Hawnly, Helmsley. V 37

STRONG NATURAL SWARMS with '97 Fertile Queen 12s. 6d., and good second ditto, headed by '98 Queen 8s. 6d. Travelling case 1s. each. Guaranteed perfectly healthy. WOODS, Normandy, Guildford. V 31

PRIME Natural Early June SWARMS of my selected strain of English Bees, all 1897 queens, carefully packed and put on rail at 12s. 6d., larger 15s. (Telegrams Chieveley free.) W. WOODLEY, Beedon, Newbury.

SEVEN STOCKS in strong 12-frame Hives. Lifts, zinc tops; 1897 queens; Never had foul brood; Will swarm early, 30s. Must sell. 123, Arundel-street, Sheffield.

STRAW SKEPS! Any design, quality guaranteed. Send 2s. for sample skep to JAMES STEPHENSON & SON (late of Pickering), 155, Picton-street, Manningham, Bradford, Yorkshire. NOTE.—The trade supplied. V 38

PRIME, HEALTHY SWARMS FOR SALE, 2s. 6d. per lb.; travelling case, 1s. each. J. BENNETT, 2, Lark-hill; or W. HIGLEY, 15, Mason-street, Kidderminster.

BEES! SWARMS guaranteed healthy. May, 15s.; June, 12s. Carriage paid; cash with order. H. JEANES, Bryncoch Neath, late Expert to J. GIBBINS, Gilpach. V 36

22ND YEAR. Good Natural Swarms with '97 prolific queens. My well known strain coming daily 10s. 6d., 12s. 6d., 15s., on rail, '97 queens 5s. each, and in a few days '98 fertile queens 3s. 9d. both delivered. ALSFORD, Expert, Blandford.

NATURAL SWARMS of English BEES, 10s., 12s. 6d. and 15s. each, according to size with '97 Queens. Swarm box 1s. 6d. extra, or return (carriage paid). Also six Frames, brood with Queen, and a good Stock Bees 25s. I have about 25 of these For Sale, packing extra or returnable. Orders filled in rotation. A. J. CARTER, Newfields Dairy, Billingshurst, Sussex.

FOR IMMEDIATE SALE, four strong STOCKS of BEES, 10 frames each, now ready for Supers, and guaranteed healthy. 1897 Queens. Two Stocks in single hives, with four lifts and nine section-racks; two in a "Wells" with lifts, and four double hanging section-racks; four queen-excluders, extra frames, veil, smoker, three feeders, &c. Hives nearly new and well painted. £8 the lot. Owner leaving district, Eynsford, Kent. W. GUTCH, 39, Upper Gloucester-place, N.W. V 40

Prepaid Advertisements (*Continued*).

FOR SALE, Country Cottage with lucrative business attached. Near Eastbourne. Large garden, nearly two acres pasture, excellent lodges, outbuildings, &c., together with a valuable old established trade in honey, bees-wax, &c., producing a very comfortable income. Price, everything, £650. MANAGER, The Southdown Apiaries, Bexhill, Sussex.

J. S. GREENHILL,

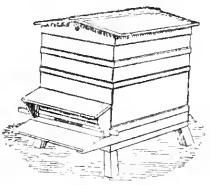
(27 years with Messrs. G. Neighbour & Son)

Manufacturer of up-to-date

HIVES AND BEE APPLIANCES OF EVERY KIND,

80, Graham Road, Wimbledon.

Illustrated Catalogue Post Free.



C. H. VARTY,

Etwall, near Derby,

Awarded Prizes during 1897 for Bee Hives and Collection of Appliances at Royal Show, Manchester, Nottingham, Chester, Burton, Shrewsbury, and Derby.

Hives complete from 10/6 each

New Illustrated Catalogue post free.

H. N. BAXTER,

Sedbergh,

Bees, Honey, and Appliances.

DON'T GET STUNG,

when by using **APIFUGE** you can easily prevent it.

APIFUGE will also be found extremely useful for travellers in foreign countries where insect pests abound. Bottles **1/-** post free.

S. E. CRIMSHAW, Beeston Hill, LEEDS.

J. TREBBLE,

Bee Appliance Manufacturer, Romansleigh, South Molton, Estd. 1877,

Is noted for Bees, Hives, Frames, &c. Any kind of hive frames made to order.

Devon Cottage Hive, standard body with 10 frames, W.B.C. ends, 2 dummies, 2 lifts, giving room for 2 racks of sections, or shallow frames (which telescope over body box in winter), rack of 21 sections, roof, and movable floor, on legs complete, 10s. 6d. Hundreds of these hives sold last year.

"THE SCOTTISH BEE-KEEPER."

No. 1 will be issued on Tuesday, May 17th.

All Bee-Keepers are invited to apply for a free specimen copy.

WM. ORMISTON, BIGGAR.

GLOUCESTER

is a very good Railway Centre for the West of England, so Bee-keepers living in this part of the country should try **E. J. BURTT,** who keeps a large and varied stock of **Bee Appliances** ready for prompt delivery.

EDWD. JNO. BURTT,

Bee Appliance Manufacturer, GLOUCESTER.

Illustrated Catalogue Free.

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—The almost magical change in the weather which has taken place since the 21st inst. fittingly illustrates the uncertainties surrounding bee-work in this country at the present season of the year. For more than a fortnight prior to the date mentioned, there had been but three or four of what we call bee-days on which bee-keepers could look upon the surplus-chambers on their hives other than as workshops occupied by labourers clustered in sullen groups, yet neither fond of idleness, nor "on strike," but perforce kept out of work by the dull rain-clouds hiding the sun's face; and, worse still, the keen east wind, reaching us from across north Russia and Siberia, which cuts off the honey flow almost as promptly as turning the handle of a tap stops water. But, as we write, everything is full of promise; we are in the midst of bright sunshine and summer warmth, with bees gathering honey fast for quite three successive days; while so recently as the 21st Mr. J. Garratt (who is not an alarmist) wrote us from Folkestone as follows:—

"I feel compelled to write a line to acquaint you with facts bearing upon the present critical condition of the bees. Since Monday, the 16th, I have been moving from place to place, examining many hives, and the conviction is irresistible that unless bee-keepers immediately supply their bees with food, they will perish to an extent almost, if not quite, unknown. Many strong stocks have *absolutely no stores*. I have not seen this week's JOURNAL, and therefore do not know if you have adverted to the danger."

We have so frequently urged the need for watchfulness regarding food-supplies to strong stocks being made safe, that it is a wonder any one who reads this journal at all, and casts any thought upon his hives, can overlook it. Any way, we are glad to record so altered a condition of things for the better, while thanking our correspondent for his timely note of warning as to the danger of neglect. There should be no "living from hand to mouth," as it were, with strong stocks of bees at this season; for when there is so much of out-go in the thousands of mouths requiring food daily, and no income even for one week, things may easily become as critical as in the cases cited above.

BEING IN TIME.—Though still little beyond the threshold of the bee-season of 1898 we already begin to hear murmurs of bee-keepers being "kept waiting for goods" on order. This is, however, so chronic a complaint with our readers that we only advert to it here in order to utter a mild retort against those who grumble by asking why they have disregarded our repeated urgings about being in time with their orders? Let us ask in common fairness, how can bee-appliance dealers possibly meet all demands for goods when orders are persistently kept back till the last moment? We have before us as we write a note from one of our advertisers—not intended for publication, but so much to the point that we make bold to quote it—in which the writer says:—

"You will no doubt be getting grumbles about myself with reference to not filling orders in time. Just fancy, seventy-two letters and three parcels of wax to hand this morning! How can we meet the pleasure of every one when this sort of thing occurs? I was half inclined to advertise my customers to send no more orders here for a good while to come, but it won't do, I suppose, to try this plan; besides, if people would just send their orders in the slack season what a lot of worry and disappointment would be saved on all sides."

Nor is this an isolated case; we know of several manufacturers who, in spite of extra hands and working overtime, are so pressed with orders just now as to be quite unable to get goods away as rapidly as asked for. In bee-keeping nothing is more important than "being in time," for if the opportunity when it comes is not taken full advantage of, it is gone for good and all. Who can deny the reasonableness of the above? but it is astonishing how careless some bee-keepers are. But to mention a directly personal matter: we quite recently got nine orders on a Wednesday morning for small advertisements in our prepaid column, all "urgently wanted" in current week's issue; and yet we have repeatedly stated that the B.J. is passed for press on Tuesday night! Now when such announcements as "swarms for sale" are among those reaching us too late for insertion, the loss of a week is serious to sellers and buyers alike.

*** *Pressure on our space compels us to hold over remainder of "Hints" till next week.*

JUDGES, &c., AT BEE SHOWS FOR 1898.

APPOINTED OR APPROVED BY THE BRITISH BEE-KEEPERS' ASSOCIATION.

In conformity with the resolution passed at the annual meeting of the B.B.K.A., held on March 17 last, as reported on p. 111 of our issue for the 24th of that month, "That the names of the judges selected to officiate on behalf of the British Bee-Keepers' Association be published in the BRITISH BEE JOURNAL when the several appointments have been confirmed." We are now enabled to announce the names of the following gentlemen as appointed up to the present date.

Royal Agricultural Society's Show at Birmingham, June 20 to 24. Judges of hives, honey, and bee appliances: Thos. W. Cowan, Henry Jonas, and T. D. Schofield. Steward of Bee Department: W. Broughton Carr; Assistant Steward: R. Hamlyn-Harris.

Royal Cornwall Agricultural Society's Show at Penzance, June 8 and 9. Judge of Bee Department: R. Hamlyn-Harris.

Lincs. Agricultural Society's Show at Lincoln, July 14 and 15. Judges of Bee Department: R. Thorpe and F. J. Cribb.

Staffordshire Agricultural Society's Show at Burslem, August 29 to September 1. Judges of Bee Department: Revd. J. F. Buckler and W. Lees McClure.

BEES IN RELATION TO HORTICULTURE.

By T. W. Cowan, Ed. BRITISH BEE JOURNAL.

Read at the Fruit Growers' Convention, Los Angelos.

The subject of the relation of bees to horticulture is so great that in the short time allotted to me I can only give a very brief outline of it. Most of us know that bees gather both nectar and pollen from the blossoms, but it is not generally known why the wants of bees are supplied by the floral world. The answer to this question reveals to us a new meaning for the existence of these insects. Plants blossom in order that seed may be produced and perfected and the race continued Before the seed can be produced, pollen borne by anthers must be placed on a certain special part called the stigma. Should the pollen be of a suitable kind, and the stigma in a receptive condition, a delicate thread called the pollen tube is thrown out by the pollen granule into the seed vessel, by which the seed becomes fertilised, and, when mature, capable of germination. If we examine a flower we shall find generally just within the corolla, the productive organs. They consist of stamens and pistil. The stamens are slender filaments carrying the anthers-bearing pollen, at their extremities, and these are the male organs, while the female organ consists of the ovary containing the ovules or undeveloped seeds and one or more thread-like styles arising from it and each terminating with a fleshy stigma.

The great majority of flowers possess both anthers and stigmas, thus carrying the two sexes within themselves. From this we might suppose that the form of the flower would be such as to secure the transmission of its pollen to the stigma in order that the end of its being may be accomplished.

Very vague ideas prevailed as to how the pollen was carried to the stigmas, and it was only towards the close of the last century that Sprengel came to the conclusion that the structure of a large number blossom was such as to prevent the flower from being fertilised by its own pollen. We now know that conspicuous flowers, generally speaking, are especially arranged to prevent, or at any rate to impede, fertilisation by pollen which they themselves produce, while marvellous contrivances are found to secure pollen from some other plant or flower of the same species. The protest made by nature against continuous in-breeding applies no less to plants than to animals, to flowers as well as bees.

Insect Agency.—In some instances pollen is carried by the wind, and such plants are called anemophilous. Anemophilous plants, as a rule, bear inconspicuous flowers. In the Indian corn, the sexes are produced on different parts of the plant. Wind-fertilised plants produce a large quantity of pollen, so as to insure each blossom having a sufficient number of granules to secure fertilisation. But Sprengel was able to show that by far the larger number of flowering plants confide to insects the duty of bringing about these unions which, without them, would never be effected. The whole family of apidæ among insects is found to be most useful for this purpose, and of these, Apis mellifica, —our common honey bee—stands par excellence as the complement of the blossom. It has been shown that in the spring, when fruit trees are generally in bloom, there are twenty bees flying and visiting the flowers to one of any other kind of insect. As insects are necessary to the existence of most plants, the flower secures their visits by offering them pollen and nectar served in the most attractive fashion. Pollen is necessary for the flowers themselves, but it is produced in such profusion that there is more than enough for their purpose, some of the surplus going towards the flesh-forming food of the bee. Nectar, however, in most cases, is yielded solely for the benefit of the bee and is the reward for her work. We thus see that insects perpetuate flowering plants, and flowers continue the existence of insects, both being vitally dependent upon each other.

The position of nectaries in flowers differs with the kind of insects to which they are suited, and while some lie on the surface, most are found in deeper recesses, because this insures the insects coming well into contact with the male and female parts, and protects the nectar from injury by dilution with rain or

dew. For the latter purpose we also find wonderful modifications, as, for instance, the drooping habit of the flower of the fuchsia, or the up-standing water-resisting hairs of the common nasturtium. The sexes do not always exist in the same flower, nor always on the same plant, and even when they do the flowers are so modified as to prevent self-fertilisation, and secure cross-fertilisation by insects. Many flowers in which pistils and anthers are present prevent self-fertilisation by maturing these organs one before the other, so that the two sexes are never present at the same time in one flower. When the anthers ripen first the plants are called proterandrous.

If we examine a nasturtium flower we find the nectar secreted in a long spur. When the flower first opens the style is short and the stigma immature ; the anthers are also unripe, but they soon begin to rise, so as to stand in a position, when ripe, that a bee entering in search of nectar cannot fail to get dusted on the breast with pollen. The anthers mature one after the other, the process occupying from three to seven days, during which time the flower is in function only male, although carrying both sexes in the anthers and pistil. The anthers now begin to fade and drop off, but the style has grown longer, and the pistil with the stigma, adhesive and receptive, now assumes the position occupied by the anthers, the flower becoming henceforward female. In this way a bee going from flower to flower with well powdered breast carries the pollen from the younger to the older blossom, and produces cross-fertilisation, the only one possible, as the two genders do not co-exist.

There is another class of plants called proterogenous, in which the pistils mature before the anthers.

Nature's resources to produce cross-fertilisation are endless. For instance, we find in the willow herb that when the flower first opens, the style curves backward and remains in this position until all the anthers have shed their pollen, and only then does it straighten and spread its four stigmatic surfaces—which, up to this time, had been closed—just in the right position to receive the pollen brought by the bee.

Then we have another class of plants in which the genders appear on different parts of the same plant, and these are called monoecious. Squashes, cucumbers, and melons are examples of such plants, and when the last two are cultivated under glass, and bees are excluded, the operation of "fertilising," or "setting," must be undertaken by the gardener. In dioecious plants the genders are placed on different plants. Among plants of this kind we find many varieties of strawberries. We have another class of plants in which the blossoms become practically dioecious by differentiating into two or even three forms. In the primrose or flax we find flowers having long and short styles. Darwin found that the best seed, and the largest quantity could only be produced by crossing the different forms. He also found that the pollen differed in size, and that grown from a different form of blossom was prepotent.

No order of plants contain more that are useful to the farmer than the luguminosæ, which all have an irregular corolla adapted to insect fertilisation. Among these we find peas, beans, alfalfa, clovers, sainfoin, vetches, and many others. So dependent is this order on insect visits, that Darwin found that in 100 heads of purple clover (Trifolium pratense) protected, not a seed was produced, while 100 heads visited by insects produced 2,720 seeds.

Advantages of Bees to Fruit-Growers.—I will now try to show how largely we are indebted to bees for the delicious fruit we enjoy. If we examine an apple blossom we will find the stigma comes to maturity before the anthers. Bees seeking nectar get dusted with pollen from an older flower, and then transfer it to the ripe stigma of a neighbouring flower. The apple is strictly a fusion of five fruits into one, and requires no less than five separate fertilisations for its perfect production. If fertilisation does not take place, the fruit, instead of swelling, dies and drops. It sometimes happens that one or more of the stigmas are not fertilised, and in such a case the fruit becomes deformed. If such an apple be cut open, it will be found that the undeveloped part lies opposite the section where the pit is shrivelled.

Among plums it is sometimes found that the pollen of one plant is impotent upon the pistils of that plant, and fertilisation is only secured by introducing a plant of another variety into the orchard. It has also been found that some varieties of pears are quite sterile unless fertilised by pollen brought by bees from other varieties. The same also was found with some varieties of olives, which proved to be quite sterile when insects were excluded.

In the raspberry the petals are smaller, and are placed wider apart than in the apple. There are about ninety anthers, and each of the sixty or seventy drupels carries a stigma, while on the receptacle will be seen a ring of shining dots consisting of nectar. Here the anthers ripen before the stigmas, and a bee alighting on the drupe'ls, as it applies its tongue to the dots of nectar gets dusted with pollen, which it carries to another and older flower, and in revolving in an opposite direction transfers the pollen to the ripe stigmas. It requires from sixty to seventy distinct fertilisations to perfect each fruit, and should any of the stigmas escape fertilisation the fruit does not develop in that part, and remains green and hard. If we look at the strawberry we find it requires from two to three hundred distinct fertilisations for its perfect production, and if any of the stigmas do not receive pollen, the development of the fruit is arrested in that part, and the seed is not produced.

I would here remark that in the strawberry

there is a tendency to a separation of the sexes, and that the plants bearing large blossoms are frequently tending to become male and to produce few fruits, while those of the same variety that produce small blossoms are tending to become female. These are abundant bearers, but produce few runners. Care should, therefore, be exercised in selecting runners, otherwise the male would in time supplant the female.

Bees and Fruits Should Go Together.—I have shown the part that bees play in the fertilisation of blossoms, and the benefits we derive from their labours, but I wish to point out a possible danger that may exist in making a specialty of bee-keeping and cultivating bees in large apiaries away from cultivated districts, as is so largely practised in California. It is useless increasing the area under cultivation for fruit without at the same time increasing the number of bees kept. Every farmer should keep bees, with the primary object of insuring cross-fertilisation of his crops, and only look to the honey yield as a secondary consideration. We are told that bees spoil fruit ; but although I could show that the structure of the mandibles is such that they cannot pierce the skins, we need not rebut the charge, but point out that, while they gather nectar for themselves, they confer a greater boon on the fruit-grower, for they really give him his crop in return.—*California Cultivator, March*, 1898.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[3275.] The month of May has not fulfilled its usual conditions ; in fact, it has been a mixture of March and April weather rather than that of the merrie month, including rough winds and wet, cold, sunless days. It is now the 23rd, and in this district we have had three good bee-days only out of the twenty-three now passed. This has sadly retarded work in the apiary, and prevented the enlargement of brood-nests ; consequently the strength of stocks compares badly with what a month of genial, warm weather would have shown. After a forty-eight hours' cold rain on the 20th and 21st, we hoped for a change. The 22nd was finer, as was the 23rd, and this morning (Monday, 24th) the warm sunshine tempted the bees to work for a few hours ; but as I write (1.30 p.m.) we are in the midst of a thunderstorm, with vivid lightning and thunder like heavy artillery overhead. I trust this may be the clearing-up storm which will bring us some warm, dry weather. My wife reminds me that it is just such a spring as we had in 1888 up till the present date. My own recollection of that season is that we had only a few days in which my bees were able to store honey up to this date, and had it not been for my store of combs in sections, I should probably not have had a completed section. Just now, so abundant is the bee-forage, that everything promises abundance if we get suitable weather ; but heavy growth sadly retards the blooming of such bee-plants as sainfoin and trifolium. I have recently seen fields of the latter laid on the ground, and only a few buds showing, although this plant usually yields our first spring bee-forage, and is generally in blossom a fortnight before the sainfoin. Being on high ground we feel the cold and our harvest is later by a few days than in the valleys.

Mr. Woods (3258, p. 184) asks if I have tested the bees' preference for foundation, in comparison with worked-out combs ; but in modern bee-keeping the bee's preference is not always consulted or taken into account. What most of us try to do is to steal a march on Nature in the matter of brood-nests in April, May, or June, according to the period of our honey harvest ; and with strong colonies in May I should consider the sheet of foundation equal to a comb of 1896 or 1897 ; but to a moderate colony that I desired to help forward I should prefer to give nice, clean, new 1896 or 1897 comb, and if the outside combs were fully stocked with honey I should bruise some of the cells, and the clearing out of these would warm up the colony, while the disturbance caused by inserting the comb would induce many bees to gorge themselves, and this also would make them start storing in the new combs, and the queen would deposit eggs forthwith. Any bee-keeper who has put sections on and afterwards found that the bees refused to have anything to do with the foundation in those sections, would certainly put the refused foundation in the melting-pot, as more suitable for use as furniture polish than in a bee-hive ; but I have not been troubled with this bother or disappointment since using foundation of latest improved make.

Swarming has not commenced with me yet, though I have many very strong stocks, both at home and at my out-apiary. I have heard of two or three swarms from straw skeps located near a wood less than half a mile from my Stanmore farm, so that, given warm weather, we shall hope soon to be busy. All racks of sections and boxes of shallow-frames are ready ; but it is of no use putting on supers until there is forage in bloom for the bees to work on, and suitable weather for the ingathering.

I am often getting inquiries if swarms will

travel safely for long distances by rail. Well, I have successfully sent many swarms to the north of Scotland, to Oban and Islay in the west, and also to the north and west of Ireland, but *always by Passenger Train*.—W. WOODLEY, *Beedon, Newbury*.

HOW FOUL BROOD IS SPREAD.

EXPERIENCES OF A RECENT EXPERT TOUR.

[3276.] A deal has been said and written from time to time on the much vexed question of foul brood. I am afraid that a good many bee-keepers fail to realise the great necessity for legislation in the question, and so I venture to help on the matter by giving a case in point as follows :—A possessor of bees (not a bee-keeper) located, much less than a hundred miles of London, had a colony in a skep, which stock eventually died off. A bee-keeping cottager living close by, seeing the skep standing, apparently empty, no bees flying, went and examined it, and found the combs badly infested with disease, thus clearly showing cause of death.

He made a point of seeing the owner (who, by the way, is well to do), told him that the bees had died from foul brood, and, after explaining how great a source of danger the hive and combs would be to neighbouring bee-keepers if allowed to remain, advised him to burn the lot out of the way. The owner promised to have this done at once, and, satisfied with this promise, the cottager left.

In the course of a week or two the same cottager, on again passing, noticed the skep still in the same position as before, but this time numerous bees were observed passing in and out. An examination showed that the skep was being robbed by the flying bees. He at once saw the owner's groom, and persuaded him there and then to burn the skep and its contents.

The mischief caused by the delay in destroying this affected skep may be judged from the following :—Within a quarter of a mile of the place are three other bee-keepers, whose stocks last year were healthy and gave a good return. I examined these this spring, and the following is my report on same :—First bee-keeper, nineteen hives, eleven affected with foul brood ; second ditto, nine hives, four diseased ; third ditto, seven hives, all more or less affected with same disease.

Now, Messrs. Editors, when we consider that these are all cottager bee-keepers, and some of them with large families, to whom every sixpence is a consideration, is it not a "burning shame" that they have no protection and no redress for the wrong thus done them by the carelessness and thoughtlessness of one individual? There is not the least doubt that the bees referred to, being strong, robbed this skep, and so became infected with foul brood.

I might say that the owner of this skep was not and is not a member of an association, and the mischief may, of course, have been brought about by ignorance, but in my numerous tours as expert, I have come across people who, knowing their bees are diseased, will neither destroy them nor take any precautions at all.

If you explain to them the danger of infecting other hives, they give some such reply as "I'm not going to bother ; my bees must have got it from somewhere, and others will have to take their chance as mine did." Cases have also occurred where offers to buy up such stocks in order to destroy them have been refused. Why, who can tell?

On the other hand, wherever I have found foul brood in hives owned by members of some association, there is the greatest anxiety to adopt measures for exterminating the disease in the interest of neighbours and themselves alike. After all I have seen lately in carrying out an extended spring tour, it seems to me that legislation is needed, not to deal with the bees of members of associations, that is accomplished already, but to obtain powers for dealing with such individuals as are described above, whose only aim in keeping bees is to obtain honey with as little trouble as possible, and no matter at what cost to others.

If bee-keepers in general would but assist the parent association by constantly "pegging away" at the Members of Parliament for their division, until we get legislative protection to bee-keeping, real good would follow. "Constant dropping wears away the hardest stone" is what bee-keepers should remember. So let us strain every nerve to obtain our desire for the good of all.—W. HERROD, B.B.K.A. expert, *Hextable, Kent, May* 23.

BEES IN INDIA.

[3277.] You recently quoted a passage from Lord Robert's work ("Forty-one years in India") which proves that the picturesque costume of a Highlander is not calculated to resist an attack of irascible Indian bees. There is another incident referred to by Lord Roberts in his first volume, which shows that bee experiences occasionally have a tragic ending. He writes :—

"While at Jubblepur, I visited the famous marble rocks on the Nerbudda. We rowed up the river for about a mile, when the stream began to narrow, and splendid masses of marble came into view. The cliffs rise to about 100 ft. in height, pure white below, gradually shading off to grey at top. The water at their base is of a deep brown colour, perfectly transparent and smooth, in which the white rocks are reflected with the utmost distinctness. In the crevices hang numerous bee hives, whose inmates one has to be careful not to disturb, for on the bank are the graves of two Englishmen, who having incautiously aroused the vicious little creatures, were attacked and drowned in diving under the water to escape from their stings."

This reminds me of Mr. Rudyard Kipling's description of Indian bee-rocks, to which you referred some time ago. Probably the bee "*hives*" Lord Roberts mentions are the large single *combs* of *Apis dorsata*. (?)—E. D. Till.

PICKERING AND DISTRICT B.K.A.

[3278.] The annual general meeting of this association was held at Pickering on the 6th inst. The secretary reported that the association had a membership of thirty-four, and presented a statement of accounts showing that there was a balance in hand of 12s. 11d. to begin the year with. Mr. T. Mitchelson was unanimously re-elected president for 1898. The association decided to apply again to the North Riding County for a further course of lectures on apiculture, and also for the services of an expert to give lectures in the bee-tent on modern bee-keeping, with practical demonstrations of handling live bees, at Pickering Gala on August 3. The question of holding a show of honey in the autumn after the heather season was also discussed. The association is greatly indebted to the North Riding County Council for their help during the past season in arranging a course of lectures for the benefit of the members.—J. P. W. Lightfoot, Hon. Sec., *Pickering, May* 20.

Queries and Replies.

[2035.] *Bees Fighting among themselves.*—As a constant reader of your paper I venture to consult you on a matter connected with a hive of bees. Last year I started bee-keeping with one frame-hive, from which I obtained 30 lb. of section honey. About August last I got a stock in a skep which I transferred to a frame-hive, and as this transferred stock had plenty of stores, I began to stimulate bees of the other frame-hive before for autumn breeding prior to starting rapid feeding for winter. In carrying out this stimulative feeding I used some honey saved over from what I got from the skep. In about a week, after feeding had been going on the bees began to attack one another, and notwithstanding all I could do to prevent it. The stock which was packed on nine frames dwindled down to five; then cold weather came on, which put a stop to further massacre. During the past winter the stock transferred from the skep died, but the other or "fighting one" came through all right, and when inspected in the middle of April last covered six frames, with brood in all stages in four of them. Thinking that perhaps a little stimulative feeding might do good, about the middle of April I gave them some diluted honey as before. In a few days afterwards the fighting began again and continued. I immediately ceased all feeding, but this did not stop the fighting. I next, on a warm day, transferred the frames to a clean hive, contracting them to four frames and packing up warmly. While I had the frames out I dusted them, and the bees with pea flour. Now the fighting is going on still. You may, perhaps, say it is robbing, but it certainly is not. A great deal of the fighting takes place inside the hive, and there is no commotion at the entrance. The wings are the parts always injured. I have tried everything that I can think of to save the stock. I appeal to you as a last resource, feeling sure that your experience may enable you to help me. I would have tried uniting another stock of bees to them but I have no other swarm. The fighting even takes place in the night. I feel sure it is caused by the honey from the other hive; but the above are all the particulars I can furnish likely to be of use in suggesting a remedy. I have been advised to try using a scent spray, but decided to appeal to you first.—H. M. J., *co. Down.*

Reply.—We have no doubt whatever that the use of honey from the alien stock as food has caused the trouble. The pity is that we were not appealed to before you started to feed again with the same honey in the spring, for our past experience—regarding the rare instances of bees fighting among themselves which have been dealt with in these columns—has in each case tended to show that honey from a strange hive has had much the same effect on the bees fed as if strange bees had been thrown in among them. We can suggest no remedy, and you may have to wait till new honey is to be had in the fields before the bees will settle down to work.

[2036.] *A Bee Puzzle.*—Herewith I forward you a queen bee hatched in 1897 (she will doubtless be dead by the time you receive her), also a piece of comb taken from the hive. The stock from which I took her was fed up early last autumn, and not examined again until the last week in April. It was then in the same condition as now, *i.e.*, no grubs or brood. Two or three of the combs appeared to have eggs laid in them; but at the bottom of nearly all cells there is a yellow kind of gum. I have not observed this in the combs of any hive before; neither have I had a queen act in this erratic manner. To all appearance, she is well developed, and her brood hatched out all right last autumn. Kindly give me your opinion on both. The white dust noticeable on the comb is flour, used in uniting a weak colony to this stock. I may say that I mentioned this matter to a bee-keeping friend at Mansfield Woodhouse a few days ago, and sent him some of the yellow substance, and I believe he sent it on to B.J. office for your opinion; but I thought it would be more interesting to send you the queen bee and fuller particulars. I may, in conclusion, say the stock had abundance of stores, which has been uncapped on

several occasions, so as to encourage her to breed. There are certainly numerous eggs in the cells, but they do not hatch. The stock is also strong in bees. — "YORKSHIREMAN," *Rotherham, May* 25.

REPLY.—We have certainly never in all our experience had a similar case to deal with as the one before us. The queen seems perfect (though dead on arrival) in development, with no visible cause of failing. But the "yellow kind of gum" puzzles us. It is set firm, though not so hard as dried gum, but more like, in colour and substance, a gelatine lozenge. It is evidently some liquid that has "set" hard in the cells after being gathered by the bees; from what source we cannot imagine. When laid on the tongue, the substance softens somewhat, and tastes rather more "savoury," so to speak, than possessing the saccharine sweetness of anything we before knew bees to gather and carry into the hive. If any reader possessing skill as an analyst would like to try his hand with the substance, we will gladly forward some for analysis or experiment.

[2937.] *Working Bees for Profit.*—I have got seventeen stocks of English black bees, all quite healthy and perfectly free from foul brood. But I have nowhere to put my swarms. I therefore ask: 1. Which would be best, to advertise swarms for sale, or prevent them from swarming and work for honey? 2. If the latter, will you kindly advise me as to the best means for stopping them.—J. K., *Salop.*

REPLY.—So far as the relative profit to be made from working seventeen stocks of bees (whether in skeps or frame-hives is not stated) for swarms or for honey, it is largely a question of supply and demand. If you have time at disposal and a ready market for honey, the present season's outlook is in favour of honey production; but early swarms will, no doubt, sell readily if advertised now, because of the full season being before the buyer. 2. Shade, ventilation, and room in advance of requirements are the only preventives of swarming we can safely advise.

[2038.] *Bees in Skeps not taking to Bar-Frames.*—Some weeks ago I purchased eight stocks of bees in straw skeps, and, wishing to transfer them to frame-hives, I followed directions as read (I hope correctly) in B.B.J. at various times. Placing six to eight frames filled with full sheets of new foundation in the body-boxes (frames a fair distance apart), I tacked over the top a piece of American cloth, with a hole cut in the centre about the size of a cheese-plate; then placed the skep in position and packed all round with hay to keep things snug—also to prevent the bees coming through the entrance in the skep into the upper chambers of the bar-frame-hives. The skeps were put on at Eastertide (six weeks since), and were then pretty full of bees. A fortnight ago, on looking into the holes on the top of the skeps, there seemed to be a lack of food; so I gave a little syrup to each lot and contracted the entrances of the hives. On Saturday, the 21st inst., on lifting the bodies from the stands, I found the bees had not commenced to draw out the combs, but on the floor-boards there were several hundred dead bees, which I promptly removed. Since the feeding of a fortnight ago the bees appear to be livelier, but do not come out in any number. Will you tell me how to entice the bees down and prevent robbing at the same time? The quantity of dead bees found on the floorboards I thought, perhaps, might be from my other established stocks trying to rob. I have been an interested reader of the B.B.J. for some time, but still have a lot to learn about the bees. Your advice will be esteemed.—F. W. C., *Edgware, May* 23.

REPLY.—We fear our correspondent has made the initial mistake of not paying due regard to the condition of the skeps at the time of setting them above the frame-hives. It just brings us back to our oft-repeated contention regarding bee-operations. A beginner reads what is said, say, about allowing bees to transfer themselves in the way referred to above, but—and the "but" is full of meaning—in all such operations the bee-keeper must be guided by something beyond the "rule of thumb." And so, an experienced bee-man, if called in to advise as to such a "transferring" as was begun six weeks ago, would no doubt have said, "All right, just leave the skeps as they now are, and I'll tell you *when they are ready* for setting above the frames of the new hives." This is the pith of the matter, and some of the skeps would probably be "ready" several weeks before others; but till each was ready, and the weather, too, was suitable, it would only tend to retard the bees from taking possession of the frame-hives to put them on the latter. The principle involved is analagous to the old-time plan of "ekeing"—*i.e.*, giving room below—to prevent swarming; and until the skeps were getting crowded with bees, and weather was suitable, the start at transferring should have been deferred. You cannot "entice" the bees below in any better way than offering them good foundation to keep them in comb-building as soon as room is needed. But, preparatory to the need for that room, and the advent of warm weather, it only throws the colony in skep back to set it above a cold, draughty vacuum such as an empty frame-hive forms. This is bound to lower the temperature of the brood nest in the skep so dealt with, and tends to diminish the rapid increase in brood which is engendered by the additional warm wraps we so strongly advise in spring.

We have replied thus fully on the main principles which should not be lost sight of; but as the present date is so near natural swarming time, the skeps had best be left where they now are. Keep on feeding where necessary.

Echoes from the Hives.

Ipswich, May 20.—Very poor bee weather up to present. My ten hives have come through the winter well, but am afraid they are not doing so well as they ought to, if conditions were less adverse. However, I shall put feeders on next week if bad weather continues. I will send you a photo of them later on, with a line as to my bees and how I work them.—C. E. F.

Tunbridge Wells, May 23.—I had a fine swarm on Sunday, April 22. This is the first I have heard of this year about here. Puzzle: Why do bees nearly always swarm on Sunday?—C. J. W.

Bee Shows to Come.

June 1 and 2 at Colwick Park, Nottingham.—Notts B.K.A., in conjunction with the Notts Agricultural Society. Liberal prizes and medals for bees, honey, and appliances. Schedules from George Hayes, Hon. Sec. Notts B.K.A., Mona-street, Beeston.

June 7 to 10, at Portsmouth.—Hants and Isle of Wight B.K.A., in connection with the Royal Counties Agricultural Society. Schedules from E. H. Bellairs, Wingfield, Christchurch.

June 20 to 24, at Birmingham.—Royal Agricultural Society's Show. Letters relating to Bee Department to be addressed, E. H. Young, Secretary, B.B.K.A., 12, Hanover-square, London, W.

July 6 and 7 at Hanley, Staffs.—Horticultural Fête. Medals and liberal prizes for honey. Schedules now ready. Apply J. B. Barrow, Town Hall, Hanley.

July 14 and 15, at Lincoln.—In connection with the Lincs. Agricultural Society. Schedules for the Bee Department from R. Godson, Hon. Sec. Lincs. B.K.A., Tothill, Alford, to whom all entries in this department must be made **on or before June 17.**

July 20, 21, 22, at Roundhay, Leeds.—Yorkshire Agricultural Society's Show. Liberal prizes for hives, honey, &c. Schedules from Marshall Stevenson, Secretary, York. **Entries close June 11.**

August 13, at Dumfries.—In connection with "Band Contest," the South of Scotland B.K.A. will hold a honey show as above. **Two open classes for "Three's."** Schedules from Mr. J. Kerr, Hon. Sec., Douglas-terrace, Dumfries. **Entries close August 6.**

August 17 and 18 at Dover.—In connection with the Dover Horticultural Society at Dover College Grounds. Additional open classes. Increased prizes and medals. Schedules from H. W. Brice, Hon. Sec. Kent and Sussex B.K.A., Dale Park, Upper Norwood, S.E.

August 17 and 18, at Blackpool.—Honey show in connection with the Blackpool and Fylde Horticultural Society, under the auspices of the L. & C. B.K.A. Schedules from C. E. Riding, Secretary, 9, Central Beach, Blackpool. **Entries close August 8.**

BEES ABOARD AN ATLANTIC LINER.

"Off the banks of Newfoundland; cold and foggy morning."—*May* 1, 1898.

"On taking my daily walk round the deck to see that all was in order, I espied a packing box (labelled 'Pressed Beef') with a piece of newspaper on the top of it. On inquiry whose box it was, as that was no place for it, a passenger brought forward the owner (a young Swedish steerage passenger), and I requested him to take it below. 'But I want to give them some air,' said he. 'Give *what* some air?' I exclaimed. 'My bees,' replied the Swede. And there, sure enough, in the bitter cold weather, was a stock of hybrid bees. Instinctively my heart warmed to the poor little things, and I felt it a duty (as my father's son) to do all I could for them. I took charge of the beef-box, and moved it down to my 'sanctum,' then told the baker to make up some sugar syrup. I next got a small wide-necked cream bottle and some book-muslin and started in to save the bees from perishing by giving them a good feed of warm syrup—as I know 'Dad' would have had me do—without delay. May 3.—They have taken three bottles of syrup to-day, and yet cry out for more! The thing I'm most afraid of is their smothering, seeing that the only ventilation they have is through the top, which is covered with thin wire netting. The bees are pretty big chaps with yellow bands across their bodies. The Swede informed me that he has taken a stock across the Atlantic before similar to this one, so they must be hardy fellows to stand the exposure. I lent him the copy of the 'Guide Book' you gave me some time ago, and which I happened to have on board ship, and the young fellow is studying it attentively. He must be quite a novice at bee-keeping because alongside the box when I first saw it was a cup containing sugar and water, and beside it a large spoon. It looked as if the young fellow was going to feed the bees individually with spoonmeat! May 4.—The Swede says that the 'Book' is the best he has ever read (I could have told him that myself so far as bee-keeping is concerned.) 11 a.m.—Two more bottles of syrup and a piece of candy have disappeared up to now into that hungry hive. Later same day.—Arrived Liverpool. Bees all right, but aggressive; in fact, they are ungrateful, and show a strong disposition to use me roughly. Their buzz distinctly says, 'If we could only get at him.' But my feelings towards the little 'stowaways' were entirely friendly, they reminded me so of the old 'Home' and the bees at Higher Bebington.—CHARLIE."

[Above is from a letter, recently written to his mother, by a son of the Junior Editor, to whom it is gratifying to read that his "boys," even amid the strange surroundings mentioned (and this one after spending a good many years of his life aboard ship), still keep a warm place in their hearts for "the bees."—W. B. C.]

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this columns

AMBO (Chadlington).—*Death of Foodless Stock.*—1. The bulk of the dead brood in comb is "chilled," but we find slight signs of incipient foul brood; you will, therefore,

need to be careful in disinfecting the hive in which the bees have died before using again. *Virgin Queens.* — 2. The term "virgin queen" explains itself, or should do so, *i.e.*, a queen incapable of reproducing worker bees by reason of being unfertilised, or, to use the bee-keeper's term, "unmated." *Mating of Queens.*—3. A queen bee meets the drones in mid-air, on the wing for mating purposes, and no matter how many drones there may be in the hive wherein she is reared, no fertilisation will take place unless the queen takes wing. We cannot help adding that the above queries are so elementary in their character as prove our correspondent's entire non-acquaintance with a text book on bees, without which he can never hope to succeed in the art of modern bee-keeping.

H. S. (Serle-street, W.C.).—*Preventing Runaway Swarms.—Using Queen Traps.*—1. A queen-trap such as is referred to will effectually prevent loss of swarms. 2. There is no doubt that these traps, in which the worker bees have to pass through queen-excluder zinc, are a hindrance to rapid working, and unless the hives on which they are used are kept free from superabundant drones, mischief may sometimes arise from their use by bee-keepers who "only see the bees once a week."

West Kent (Tunbridge Wells). — *Early Drones.*—1. April 15 is early for drones to appear, but not abnormally so in the south. 2. The bees sent are practically all the common brown bee of the county, the one marked No. 18 has rather more traces of the carniolan element than the other, but the difference is only slight.

A. M. B. (Colwyn Bay).—*Bees not entering Section-Racks.* — Delivery here of your letter (through being wrongly addressed), haa been delayed for several days, hence the loss of time in reply. 1. Bees will usually take to a rack of sections if given at the proper time and properly packed to conserve warmth. But if honey is not obtainable outside, the "warm weather" alone will not ensure the result aimed at. Very probably by the time this appears in print the section racks will be full of bees, seeing that ten frames were crowded at end of April. 2. The source from whence pollen is got so freely can only be defined by a knowledge of what is growing in the district. 3. As soon as a hive becomes crowded with bees, surplus room may be given with advantage.

D. MacL. (Limavady).—*Soluble Phenyle.*—This is supposed to be obtainable from all chemists, but it can be had from Messrs. Morris, Little, & Co., wholesale chemists, Doncaster.

Wild Rose (Epsom).—*Bees and Early Surplus Room.*—There is little doubt but the few days of adverse weather at beginning of the month has retarded progress, and disinclined the bees to enter surplus chambers. See reply to "A. M. B."

Enquirer (Horsham). — *Queen Rearing.*—1. We cannot undertake post replies to queries except in very urgent cases; not only so, but the questions put embrace the whole art of queen-raising on the most scientific principles. 2. Anyone who seeks to become a successful queen-breeder on the plan you indicate must first procure a book on Queen-rearing, such as Alley's or Doolittle's, and study the subject carefully. 3. None but the most advanced bee-keepers use cones for making embryo queen-cells, and for us to attempt to go into so complex a subject in this column is out of the question.

Beginner (Filey). — The appliances named being only mentioned incidentally in an article quoted from an American paper, there is no need for us to say more than that the "Heddon case" is still used in America. It was tried here about a dozen years ago, but has fallen into disuse for several years past. The "T super," too, is not used in this country.

W. P. (Ticehurst).—*Clarifying Beeswax.*—It is not easy to produce wax of good colour from "old combs," if they are as usual nearly black and dirty. A few drops of sulphuric acid added to the water in which the combs are melted will, however, improve the colour; but we would rather trust to repeated dropping of the wax into clean, cold rain-water, than using acids.

Anxious (Histon, Cambs.).—*Phenol for Use in Bee-food.* — "Calvert's No. 1 carbolic acid" is only suitable for disinfecting purposes, and not for use in bee-food. The phenol referred to is pure phenol in crystals, and may be obtained from any good chemist.

J. J. J. (Bristol).—*Wax Moth.*—The larva—or grub—sent is that of the wax moth.

W. M. F. (Hants.). — *Nomenclature of Wild Bee.*—The specimen sent is *Eucera longicornis* (male). See an account of this bee in the article on "Our Wild Bees" in next week's issue.

J. H. J. (Yorks.).—Comb is affected with foul brood of virulent type. We should destroy bees, combs, and frames, and disinfect the hive before using again.

B. B. J. (Midlands).—Please send name (not necessarily for publication), but as guarantee of good faith as required.

J. S. C. (Glasgow).—*Alley's Queen and Drone Trap.*—The only dealer we know of who lists this appliance is J. H. Howard, Holme, Peterboro'. The price is 3s. 6d.

J. H. (Sawston).—*Alley Queen Trap.*—See reply to J. S. C.

Evening Hour.—*Italian Queen-raisers.*—We do not see the name you mention in the Swiss bee-papers, so presume the firm is now out of business.

Burnham (Somerset).—*Bees Badly Wanting Food.*—Give a full pint of warm syrup in bottle, with mouth covered with muslin. Do not use a slow feeder at such a time.

Special Prepaid Advertisements.

Twelve words, Sixpence; for every additional Three words or under, One Penny.

15 SWARMS of BEES FOR SALE. Natural or driven. T. WALKER, Reckerby House, Holbeach Marsh, Holbeach. V 50

SWARMS NOW READY. Guaranteed free from foul brood. 10s. 6d. each packed free on rail. HIGLEY, Expert, Timberhonger, Bromsgrove. V 49

ENGLISH BEES, a few Swarms 2s. 6d. per lb. Safe arrival guaranteed. T. DENNIS, Clifton Lodge, Rugby, or Rempstone, Loughboro'. V 48

WANTED Cowan Rapid Extractor or another. Good condition. Cheap. TOWNSEND, Sydbrook, Glo'stershire. V 47

ABBOTS EXTRACTOR. Good as new. Used once. CLEMMOW, Schoolhouse, Ladock, Cornwall. V 44

GOOD SWARMS of BEES FOR SALE, 10s. 6d. each packed. F. GAY, Cranbourne, Salisbury. V 43

STRONG HEALTHY SWARMS for postal order, 12s. 6d. Mrs. MAY, Parwich Hall, Ashbourne. V 42

BEE PLANTS. Borage, 100, 1s. 3d. White Arabis, 50 slips, 1s. 3d. EDITH TAYLOR, Old Hall Lane, Rusholme, Manchester. V 41

WANTED Pneumatic Cycle. No rubbish. Exchange Hives and Appliances. New catalogue free. GARNER, Steam Hive Factory, Dyke, Bourne. V 53

STRAW SKEPS. Any designs. Bound with cane. Send 2s. P. O. for sample to JAMES STEPHENSON & SON, Straw Skep Manufacturers (Late of Pickering), No. 155, Picton-street, Manningham, Bradford, Yorkshire. Note, trade supplied. V 52

STRONG, Healthy SWARMS, headed by prolific queens, 10s. 6d. each. Orders filled in rotation. LEMIN, 294, Hoe-street, Walthamstow. V 20

MAN seeks SITUATION. Practical beekeeper. Good straw skep maker. Would not object to gardening. J. S., 36, Temple-street, Manningham, Bradford, Yorks. V 27

QUEENS, Stocks, Nuclei, and Swarms. Queen raising a speciality. Eleventh season. Address, Rev. C. BRERETON, Pulborough, Sussex.

SWARMS of English Bees 2s. 6d. per lb. Packing box 1s. or returned. E. GARNER, Broom, Biggleswade, Beds. V 35

FOR SALE, four strong SKEPS of BEES, 12s. each. Orders received for Swarms, 10s each. W. DUNNING, Hawnly, Helmsley. V 37

STRONG NATURAL SWARMS with '97 Fertile Queen 12s. 6d., and good second ditto, headed by '98 Queen 8s. 6d. Travelling case 1s. each. Guaranteed perfectly healthy. WOODS, Normandy, Guildford. V 31

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. Neat Patterns. W. WOODLEY, Beedon, Newbury.

PRIME Natural Early June SWARMS of my selected strain of English Bees, all 1897 queens, carefully packed and put on rail at 12s. 6d., larger 15s. (Telegrams Chieveley free.) W. WOODLEY, Beedon, Newbury.

PRIME, HEALTHY SWARMS FOR SALE, 2s. 6d. per lb.; travelling case, 1s. each. J. BENNETT, 2, Lark-hill; or W. HIGLEY, 15, Mason-street, Kidderminster.

BEES! SWARMS guaranteed healthy. May, 15s.; June, 12s. Carriage paid; cash with order. H. JEANES, Bryncoch, Neath, late Expert to J. GIBBINS, Gilpach. V 36

22ND YEAR. Good Natural Swarms with '97 prolific queens. My well known strain coming daily 10s. 6d., 12s. 6d., 15s., on rail, '97 queens 5s. each, and in a few days '98 fertile queens 3s. 9d. both delivered. ALSFORD, Expert, Blandford.

NATURAL SWARMS of English BEES, 10s., 12s. 6d. and 15s. each, according to size with '97 Queens. Swarm box 1s. 6d. extra, or return (carriage paid). Also six Frames, brood with Queen, and a good Stock Bees 25s. I have about 25 of these For Sale, packing extra or returnable. Orders filled in rotation. A. J. CARTER, Newfields Dairy, Billingshurst, Sussex.

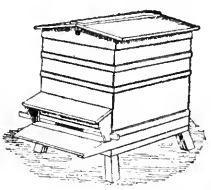
Prepaid Advertisements (*Continued*).

WILL EXCHANGE "GLADSTONE AND HIS CONTEMPORARIES" (unsoiled), Blackie, gilt edges, £2 2s. Also "HISTORY OF INDIA," Blackie, £3 3s. (unsoiled). Will accept strong healthy STOCK in standard bar-frames for each, or two SWARMS for each, together or separate. D. VALLANCE, Dunaskin, Ayr. V 45

A. H. YOUNG,
The Expert Southport Apiarist,
FOR
Bee Hives, Appliances, & Comb Foundation.

Best Brood Foundation, 7 sheets to the lb., 1 lb. 2s. post free, 2s. 4d. Best Super Foundation, 13 to 14 sheets to lb., 1 lb. 2s. 9d., post free, 3s. 1d. Fine Sections, 50, post free, 1s. 6d., 100, post free, 2s. 9d. Fine Screw-cap Honey Jars, 2s. dozen, 23s. 6d. per gross. 9, Sefton Street, Southport.

J. S. GREENHILL,
(27 years with Messrs. G. Neighbour & Son)
Manufacturer of up-to-date
HIVES AND BEE APPLIANCES
OF EVERY KIND,
80, Graham Road, Wimbledon.
Illustrated Catalogue Post Free.



C. H. VARTY,
Etwall, near Derby,
Awarded Prizes during 1897 for Bee Hives and Collection of Appliances at Royal Show, Manchester, Nottingham, Chester, Burton, Shrewsbury, and Derby.
New Illustrated Catalogue post free.
Hives complete from 10/6 each

H. N. BAXTER,
Sedbergh,
Bees, Honey, and Appliances.

A. W. HARRISON
Bee Appliance Manufacturer,
POTTERS BAR, MIDDLESEX.
Catalogues and Abridged Lists Free.
Hives from 9s. 6d. upwards.
All Wood Work of Best Yellow Pine.
Orders Promptly Executed.
WEED FOUNDATION for **BROOD**, 10 sheets to the lb., 3d. per sheet. Post, 4d. on 10 sheets and 1d. for every additional 8 sheets.

GLOUCESTER
is a very good Railway Centre for the West of England, so Bee-keepers living in this part of the country should try **E. J. BURTT,** who keeps a large and varied stock of **Bee Appliances** ready for prompt delivery.
EDWD. JNO. BURTT,
Bee Appliance Manufacturer, GLOUCESTER.
Illustrated Catalogue Free.

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER:—The concluding portion of "Hints" (cut short on page 201 for lack of space) will come with even more force than if printed a week ago. The weather in the interim has been fitful as before, warm and sunny for an hour, then wet, while at times cold winds have kept the bees indoors and, perforce, foodless if unfed. It certainly promises better as we write, and if it keeps fine as now, we may, in the course of a few days, expect to hear of bees everywhere working in surplus-chambers. In the north, stocks appear to be very little behind those in the south, and when it is borne in mind that the orthodox date for bees beginning work in earnest—by which we mean on the white clover-bloom—is the first week of June in the south, ranging from the second to end of third week in the same month as we travel northwards; bearing in mind these dates, and judging by the present strong condition of stocks, so far as bees are concerned, a fair idea may be had of the colonies which can be relied on for the honey-gathering of the year. There is no use in coddling weak stocks now, expending labour and effort in the endeavour to get them "fit" for work when the season has passed. A selection should, therefore, now be made of the hives from which it may be reasonably expected the harvest will be obtained, and all the energies of the bee-keeper must be devoted to them. Weak lots may be left to look after themselves and gather sufficient stores to winter on; it is too late for uniting in the hope of obtaining better results from them. The work must be done by colonies strong now, and becoming stronger by thousands every day. In consequence of the in-gathering being—in the south, at least—deferred for some weeks after its usual time, many may perforce be compelled to alter their plans somewhat, and work for extracted instead of for comb-honey. Be we can see good even in this; it will serve to extend their experience, and enable them to judge of both methods by way of comparing results, and deciding for themselves which is, on the whole, most advantageous so far as profit making is concerned.

After taking the precautions already noted regarding the present requirements of such stocks as are perilously short of food, and in the not improbable event of a continuance of fine weather, we must now urge all to see that bees have timely room, ventilation and shade if swarming is to be minimised, and also that as little disturbance as possible to the bees in their work is allowed in the way of too frequent "pulling them about." In giving second and third surplus-chambers, each one will adopt his own method by setting additional ones over or under those already on. We may, however, just advise those who believe in the advantages of tiering up from below, to try, on a few stocks, the less tiresome plan of setting extra chambers above the others, and if no manifest disadvantage is discovered in the returns, then to adopt the latter method, which has been our practice for many years.

We add a line to advise beginners not to attempt too much in starting bee keeping. Some, even in their first year, expect increase and surplus from a single stock, innocently asking, "How soon may I make an artificial swarm before putting on supers?" It goes without saying that such overzeal is almost sure to end in failure.

WILTS BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual general meeting of the above Association was held, after due notice, on the invitation of W. S. Bambridge, Esq., at his residence at Marlborough on May 24.

Mr. Bambridge having been voted to the chair, the Hon. Secretary read the minutes of the last annual meeting, which were duly confirmed. The report for 1897, with the balance-sheet, were also approved and passed unanimously.

The officers of the past year were re-elected. The Revs. C. F. Burgess (Stratton) and J. H. Twining (Woodford), with Mr. W. C. Gale (hon. secretary of the newly-formed Calne branch), were also elected as additional members of the committee.

It was proposed by the Chairman, seconded, and carried unanimously, that the invitation of the Swindon Horticultural Society to hold a county show in connection with their fête on August 24 be accepted, and that the hon. secretary should apply to the British Bee-

keepers' Association for their medals and a judge.

After considering and dealing with the hon. secretary's correspondence, the meeting closed with a vote of thanks to the chairman. —W. E. BURKITT, *Hon. Secretary.*

IRISH BEE-KEEPERS' ASSOCIATION.

The committee met on 19th inst. Present: Mr. Farrelly (in the chair), Dr. Traill, Mr. Read, and Mr. Chenevix (hon. secretary, 15, Morehampton-road, Dublin).

A certificate of competency as expert in modern bee-keeping was granted to Mr. M. J. Corcoran, of Newtown Anner, Clonmel. It was reported that two new local bee-keeping associations—one at Ardara, the other at Carrigart—had been affiliated to the Irish Association.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "THE EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C."*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

DRIVING BEES.

CARRYING DRIVEN LOTS ON BICYCLES.

[3279.] The device for carrying three skeps of bees on a bicycle, described by your correspondent "D. G.," Ilminster (3268, p. 192), is interesting and ingenious, but by no means "up to date." I have for some years past been in the habit of carrying eight or ten driven stocks at a time on my bicycle; and on one occasion, two years ago, I and my son, Ivor, brought home close upon twenty stocks, a distance of ten miles, in this way. I send a photo which may interest B.B.J. readers.

The *modus operandi* is very simple.

A supply of bags, of any light material (I use "art muslin"), is provided, the mouth of which should be wide enough to go round a straw skep. A small hoop is fixed at the other end to keep the sides of the bag apart. The bees are "driven" into an empty skep, then the mouth of the bag put over the open end of skep, and a sharp jerk transfers them from skep to bag. A quick separation of bag and skep follows. The bag is then "sacked up" and securely tied, and is then ready for a repetition of the operation with another lot. I often put three and even four lots in one bag in this way, and there is no trouble about uniting. If you do not drive all the bees cleanly, hang the bag upon a bough open, and the fliers will all rejoin the "swarm" in a few minutes. Bees take very kindly to these bags, and I have left them for quite forty-eight hours in my photographic dark room. I use a brass ring, or hook, sewn to top of bag (opposite end to mouth), which slips along a stiff bamboo rod lashed to bicycle handles (see plate); and these may be added as many as you please.

This device of mine is well known in Hampshire, where I have been advocating it for several seasons from our bee van.—E. H. BELLAIRS, Hon. Secretary Hants B.K.A., *May* 24.

CONFLICTING THEORIES.

GIVING *v.* WITHHOLDING SURPLUS ROOM.

[3280.] I have been trying, this spring, to combine two rather conflicting theories—in practice. You have two axioms in bee-keeping (1), "Don't put on supers until honey is coming in," and (2) "If you don't want swarms, give surplus room a little ahead of actual needs." This present month of May, however, has been such an exceptional one, and the bees were so crowded—while there was as yet no honey coming in—that on the 16th I decided to give each stock a box of shallow-frames, being afraid that on the first bright day I should have swarms which I did not want. But I don't believe there was half a pound of food in any of my hives, and though

I had been feeding them in the open daily when fine, whenever the day was warm enough, or the sun shone out for an hour or so, I put down near the hives a feeeder with a pint and a half or so of syrup, and in less than an hour it was all cleared up. I had to continue this feeding for some time afterwards, while we had a continuance of wet weather, giving them more or less as the opportunity occurred, but always taking care that they had sufficient for their immediate wants.

Now, with the pleasant change we have just got, I find on examination to-day that the bees are in the supers and busy at work. Of course, when giving supers, and the weather was so unfavourable, I took care to see that they fitted nicely, and also that extra thicknesses of warm wrappings were given, to conserve the heat as much as possible. Now I wish to know if I did the best thing under the circumstances? My hives are all in a beehouse, and consequently are not so liable to fluctuations of temperature as if they were on stands in the open. — "THE HASTINGS HEATHEN," *Hastings, May 27, 1898.*

[It is always the "best thing to give bees room" a little in advance of actual needs in spring, otherwise it is next to impossible to stop swarming; and if every one took the precautions adopted by our correspondent we should have less confusion with regard to what look like "conflicting theories," but which only need to be read intelligently to make them work out well in practice.—EDS.].

THE LAW ON VAGRANT SWARMS.

[3281.] I helped a neighbour to put a very fine swarm of bees into a straw skep last week, intending to transfer them to a frame hive in the evening, but between 12 and 1 o'clock they deserted the skep and flew off, and he was hindered from following them far by hedges and gardens. They went towards the head of the town, and several parties saw the bees come out, and followed them a few perches and then saw them alighting among a gentleman's hives.

I send you a copy of the correspondence which has passed regarding them; and as the last letter has not been replied to, it is evident my neighbour has lost his bees. We are anxious to know if there is any pamphlet setting forth the law regarding swarms of bees that stray away, and any other information you can give us for future use, as he does not want any law work about them now? I also ask, Is it lawful to have empty hives with combs in them left out in the garden as decoys? —W. A., *Co. Antrim, Ireland, May 30.*

[Copy.]

DEAR SIR,—Several parties saw my bees passing the head of the town, and saw them alighting among your beehives. As I understand you had empty hives, will you kindly have them examined and see if you have more than your own, as, from what I have learned since, I believe mine went there.—Yours, &c.

[Reply.]

May 26, 1898.

DEAR SIR,—In reply to yours of yesterday, I don't like the tone of your letter. Will you please inform me if you charge me for having your bees in possession?—Yours, &c.

May 27, 1898.

DEAR SIR,—I am not aware of having said anything out of place in my letter; I only stated what I had been told by several parties, namely, that the bees had alighted among your hives. I made no charge. I merely asked you as a gentleman to examine your hives and see if you had any strange bees, believing if you had that they are mine.—Yours, &c.

There is no pamphlet dealing with the law of this subject, but it has been referred to so recently in our columns as May 19. See page 196; or refer to pp. 179 and 412 of volume for 1897.—EDS.]

OUR WILD BEES.

(*Continued from page* 198.)

EUCERA, OSMIA, AND STELIS.

[3282.] An interestiug bee which is common in some places in the south of England from mid-May to mid-June is *Eucera longicornis* (see table of genera, page 96). The first, or generic, name is Greek, and implies "great horn." The second, or specific, name is the Latin for "long horn." It certainly deserves this redundant title, for the antennæ in the male are a trifle over half an inch in length, that is, fully as long as the head, thorax, and abdomen put together. In the female, however, the antennæ are of normal length. Without its antennæ *Eucera longicornis* measures 13 to 15 mm. It is, therefore, large and conspicuous. It often forms large colonies on sunny slopes.

This bee apparently requires two seasons to arrive at maturity; spending the first winter in the full-fed larval state; the second as the fully developed insect ready to emerge in May. *E. longicornis* is the only British species of *Eucera*. But to show what a number of Continental species there are, I may say that one volume of Friese's "Apidæ Europæ," containing 200 pages, is devoted entirely to this genus, in which 160 species are described, and probably this is far short of the real number. The female *Eucera* is the only Apid with two submarginal cells which carries pollen on the posterior tibiæ, and not on the venter. The male may be at once recognised by its long antennæ. Wherever *Eucera longicornis* occurs, its inquiline, *Nomada sexfasciata*, should be looked for.

A pretty bee, differing widely from any of those we have been considering up to the

present is now likely to attract the collector's notice. It is *Osmia rufa*. At first sight this bee bears, perhaps, a slight resemblance to the female of *Andrena fulva*, but the presence of only two submarginal cells in the fore wing, and the long tongue, are features that will remove it from *Andrena* and the *Andrenidæ* at a glance.

The species may thus be described: Bronzy black, head and thorax clothed with pale brown hairs, which are paler beneath; the face face in the ♂ is clothed with white, in the ♀ with black hairs. In the ♂ the antennæ are long; in the ♀ the clypens has two large prominent teeth, one on either side. In both sexes the abdomen is densely clothed with orange-coloured hairs. The scopa (in the ♀ on the under side of the abdomen) bright orange coloured. Length 10 to 15 mm. Common in May, chiefly in gardens. The hairs soon fade to a dingy grey.

The genus *Osmia* is one of the most interesting among the bees. The females carry the pollen to their nests, not on the posterior tibiæ, but on the under side of the abdomen, which is provided with a dense tuft of stiff long hairs for the purpose.

Osmia rufa is not bound by any hard-and-fast rule in the selection of a locality for her nest. Often the burrows are made in the ground or in the decaying mortar of an old wall; but snail shells, and sometimes some very curious things, such as a lock or an old fife (as mentioned by Smith) are chosen. There is one lovely species of *Osmia*, well-named *O. aurulenta*—very common all along the coast here—which almost always makes its nest in a snail shell. The shell of the common garden snail is generally chosen. Last year, however, I found them breeding in the large whelk shells on the beach at Kingsdown.

Near the end of the whorl, where the tube is small, the cells are formed in single file, and placed end to end. As the tube gradually widens towards the mouth of the shell, the cells are placed transversely, and just before the mouth there is room for several cells to be laid side by side. The mouth of the shell is covered over with a thick plaster of mud, which hardens and forms a good protection to the young inside. Several of these shells, containing the nests of *Osmia aurulenta* lie before me as I write. They were picked up at Kingsdown last winter, and I have been keeping them carefully in order to breed some quite fresh specimens of the male of this species from them, which is not easy to obtain in good condition on the wing. It is said that the female *Osmia* always places the cells from which the males will hatch out near to the mouth of the shell, the females being at the far end, thus, when the males come to emerge, as they always do, earlier than the females, they clear the way for the females to escape afterwards. There cannot be much doubt that this is always the case, but it necessitates a curious reversal of the universal instinct amongst the lower animals of giving birth to the male before the female. My shells are placed in a large glass bowl, with a piece of muslin tied over the mouth, which provides the necessary ventilation, while the mesh is too small to allow any insects that may hatch out to escape. Occasionally the shells are taken out and given a good drenching from the watering-can, also they are frequently exposed to the direct rays of the sum, and so natural conditions are imitated as much a possible.*

About ten days ago (May 4) I found two or three newly-hatched males in the glass bowl on several consecutive mornings, but during the last few days there have been none; so the females ought soon to be making their appearance.—F. W. L. Sladen, *Dover*.

(To be continued.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Mr. Peebles, whose apiary is shown in the illustration on opposite page, though an occasional contributor to our journals for some years past, will be best known to readers by his valuable articles descriptive of an improved "Heather Honey-press" and "The 'W. B. C.' Hive; How to Make it." These articles—which are illustrated by working drawings from Mr. Peebles' own hand—bespeak the practical bee-keeper no less than the skilled joiner in every line, and have enabled a good few amateurs possessing ordinary skill in handling tools to make a bee-hive—or, if needed, a honey-press—worth having and dear to the heart of a born bee-keeper. The several articles to which we refer appeared, the "Honey-press" in B.J. of January 14, and "The 'W. B. C.' Hive" on June 24 and July last year, and not a few have since expressed to us their gratitude to Mr. Peebles for his disinterested efforts on behalf of "good bee-keeping" through his writings.

Without having actually seen Mr. Peebles—a long promised "Scotsman's welcome" being one of the pleasures we look forward to at no distant date—we have long known him as an enthusiastic and thorough bee-man of the intelligent sort; one of

* This is an important principle to bear in mind in dealing with or making experiments on all animals and insects, honey bees included, to make success even possible, and it is one that is only too frequently ignored. What a number of bee-appliances-extraordinary have been brought forward from time to time that were doomed, solely from their designer's lack of observing this principle, to be useless for their intended purpose, their only value, perhaps, lying in the merit they reflected on the work of the mechanic who made them. And what enthusiastic bee-keeper is there—I include myself—who has not spent valuable time, and money, too, in attempting to work out some pet theory which, could this fundamental principle have been disregarded, would have bid fair to have revolutionised the whole industry?

those who think that no amount of care is too much for the "little labourer" he loves so well, and in whose companionship—along with that of the equally loved flowers which go to make up his "dual hobby"—he spends his leisure. Every week in the summer time—as we learn from a mutual friend—Mr. Peebles hastens away from the cares and worries of business in Edinburgh—connected with the firm of which he is the principal—to his "kail yard," as he facetiously terms the charmingly-situated cottage at the foot of the Pentland Hills, a few miles out from the photo of one of them (shown on page 256, vol. xxv.), without realising how thorough he is in all he does.

We made the usual application to our friend for a few words concerniug himself to go along with his "bee-garden picture" in print, but although we have had delightfully chatty private letters "about the bees" from him, his modesty won't allow him to be "drawn" into writing of himself, so he simply says:—"I could only talk about the pure love I have for my hobby, the bees, and don't see that anything I could write concerning myself

MR. ROBT. PEEBLES' APIARY, SWANSTON, NEAR EDINBURGH.

town. Here, amid lovely scenery and beautiful surroundings of heather-clad hill and flowery dell, right among the haunts and close to the home of Robert Louis Stevenson, in the very cottage, too, where Mr. Peebles was himself born, he spends most of his leisure hours in the summer time. Being a thorough Scotsman of the best type, loving "Auld Scotia," and not given to roaming, his bees and his flowers are the objects of his unceasing care and solicitude. We cannot look upon the hives in the picture, apart from the actual would be of the least benefit or interest to your readers." That "chat about my bees," he continues, "which you printed in the *Record* of November, 1890," was my introduction to your readers, and gives my first year's experience with them, and what I have since written in the pages of the B.J. and *Record* tells the rest, "so just do as ye ken best." And so with this bit of "broad Scotch"—which Mr. Peebles often adds as a sort of "spice" to his letters—we have been left to do as best we can. We therefore simply

add a line to say the letter referred to as appearing in *Record* for November, 1890, gives that year as his "start" with bees, and from the very first he realised the need for perfect accuracy and interchangeability in all appliances used. And this has been his rule in bee-keeping, which we are more than pleased to say he has made a source of pleasure and profit.

SEASONABLE QUESTIONS.

ANSWERED BY G. M. DOOLITTLE.

BEES KILLING QUEENS.

Question.—As I was handling a colony of bees the other day the queen fell off the comb down on the enamelled cloth, when I picked her up and put her on top of the frames in the hive. The bees immediately rushed on her and killed her. How is this to be accounted for?

Answer.—Bees will sometimes attack a queen that they have cherished for months as their mother if she for any reason becomes frightened, thus running around and acting like a stranger. Especially is this true in early spring, as the bees seem to "guard their queen with a jealous eye" to a greater extent when colonies are just set out of the cellar, or are having their first flight in spring, than at any other time of the year. For this reason I handle bees as little as possible till brood-rearing becomes well established, when the bees rarely pay any special attention to their queen while the combs are being looked over. When it was necessary to handle frames on account of light stores, dead bees having accumulated on the bottom-board, or to find out whether the colony has any queen at all, I have often found the queen balled as soon as I came to where she was on the comb; and if not, then the bees would form a knot over her immediately on the light striking the comb when it was turned up so as to see her majesty. But it is not often that any queen is killed as was the one the questioner tells about, unless she is handled, or robber bees come hovering around while the combs are being handled. When robber bees so hover around as to annoy the colony, the bees become jealous at once regarding their queen, and when in such a state they are very apt to place on her the blame for the disagreeableness caused by the opening of the hive, when they will ball and sting her, though the cases where they mete out so severe a punishment are rare. They will more often hug her till the robber nuisance is past, when they will let her go about her work again.

Years ago Mr. D.A. Jones asserted that the motions or actions of a queen are often what govern the treatment of the bees toward her, and I am quite inclined to think he was partially or wholly right. In the above case the queen was undoubtedly frightened by her fall and from being picked up, and so ran into the hive pell-mell; which was not the way the bees were used to seeing their own mother act, so they concluded her to be a stranger, and rushed upon her, fearing she might be the means of killing their own mother, for they had not so far missed their mother's presence. Then she was found where the bees did not expect her to be, and this gave evidence to them that she was an intruder. Then, lastly, the queen probably had acquired a foreign scent by being picked up with the hand, so the smell was not like that of their mother's, and this alone often causes the bees to treat their own queen as they would a stranger. In circumstances like the one described, I always pick up something like an entrance-block, spear of grass, or weed-stalk, &c., allowing the queen to run on it, when it is held near the centre of any comb having brood in it, when the queen, attracted by her subjects, will walk off on the brood, and in nine cases out of ten appear at home at once, as she is now where she was before the hive was disturbed.

QUEENS BEGINNING TO LAY.

Question.—About how long after emerging from the cell before the queen goes out to meet the drone? How long after mating before she begins to lay? What I really wish to know is, how long a time must elapse between the time the first or prime swarm issues from the parent colony, and the time the young queen begins to lay. By knowing this, it will help me much in ascertaining whether each hive that sends out a swarm has a laying queen later on.

Answer.—In the above we have something which is very often overlooked by very many bee-keepers, and thus colonies are allowed to go without a queen till laying workers appear, or the colony dwindles down to where robber bees take away all the honey the hive contains. As a rule, the time from the issuing of the first swarm to the time the first young queen emerges from her cell, is seven days. Then, if after-swarming is allowed, it will be all the way from four to eight days before a young queen becomes established in the hive over her rivals, and this established queen may be only one or two days old when thus established. As a rule, queens which have their own way fly out to meet the drone when from five to seven days old, so it may be five or six days after such queen is established before she mates. Then there is a period of from two to three days after mating before she begins to lay. Hence when after-swarming is allowed it will often be twenty-four days before the queen commences to lay, and it is useless to look in such (after-swarming) hives any sooner than this. Then if you look when the queen has been laying only a few hours, the eggs will be so "few and far between" that it will bother you to find them; hence I always consider it good policy to wait twenty-seven days, at which time young larvæ should begin to ap-

pear, which, together with eggs in several combs, tells you, generally, upon the lifting of the first centre comb of the hive, that a "young queen is there all right." If no eggs or larvæ are found, a frame of brood should be immediately given, when you will look again in forty-eight hours to see if queen-cells are being started. If so, then the colony should be given a laying queen at once, or, if this is impossible, two or three frames of brood should be given them, else they dwindle to where they will be of little value before any young bees will hatch from a queen they may raise from the brood given. But suppose after-swarming is not allowed, then we have seven days to the time the first young queen emerges from her cell, seven days to the time she flies to meet the drone, and three days to the time she begins to lay, this making seventeen days as the shortest time any young queen is likely to be found laying from the time the prime swarm issues. Then I would wait three or four days more till eggs and larvæ might become abundant in the combs, so I could expect to ascertain what I wished to know on lifting only one or two combs. My practice is to look for eggs and larvæ on the twenty-third day from time of swarming where no after-swarms are allowed, or on the twenty-seventh day where such swarming is allowed. But, more often still, I do not look into any hive at all of late years, as years of looking at the way the bees act at the entrance and in the sections has enabled me to tell at a glance along about the date named, whether the colonies have laying queens or not. When you find a colony that does not have a laying queen the twenty-fifth day after the first swarm issues, just watch the bees in their actions at the entrance and compare their actions with one you know has a queen which has been laying two or three days. Then look at the work or "non-work" going on in the sections of the two hives; and if you are a careful observer you will ever afterward be pretty sure regarding this matter without ever even opening a hive.—*Gleanings* (American).

Queries and Replies.

[2039.] *Dealing with Foul Brood in Early Summer.*—I send herewith a piece of comb, and ask if you will kindly say if it is affected with foul brood? If so, would you advise me to destroy stock or try to cure it? The bees cover ten frames, and when I went through my hives a month ago this was the most forward of all. There was then, I noticed, nothing amiss with it that I could see.—A Troubled Bee-Keeper, *Salisbury, May* 27.

Reply.—Judging by comb received, foul brood is rapidly developing in the stock from which it was taken. Regarding the cause of the outbreak, can you trace it to anything that occurred when the hive was examined a month ago? We ask this because of the indications pointing to recent infection. Our advice is to get the bees off the combs into a temporary receptacle—that can be burnt after using—and carry them indoors (confined, of course), while the hive is being scrubbed out well with hot water in which a good handful of common washing soda has been dissolved. The whole of the frames and combs now in the hive should be cut out and burnt. This done, the bees may be returned to the hive on five or six new frames—fitted with full sheets of foundation—and fed with medicated food for a week. If weather is favourable, they will soon need the full complement of frames, which may be given fitted either with full sheets or starters only of foundation, as desired. The above treatment will stand every chance of effecting a cure at this season, seeing how strong is the presumption that there will be no foul brood *spores* to be dealt with, but only the bacilli, which is more amenable to treatment.

[2040.] *Drones Cast out in Spring.*—Enclosed I send you some drones and drone larvæ, and write to say during the last few days quite a battle has been going on in one of my hives; the result is that adult drones, also larvæ in all stages, are lying by the hundred on the sand in front of the hive. Is not this quite exceptional? I have never seen the like before at this time of the year. I may state that they came from an old-fashioned hive with a fixed bottom, and the combs being built anyhow, I was unable to see properly last month what was going on. I bought this hive several years ago; and as it is not built to take "Standard" frames, I have been unable to do much to them, consequently the combs are old; and have no doubt the queen is old also. I noticed when I examined them last month that there were several queen-cells, and as this hive was very strong with bees, and getting short of supplies, I fed them up well; drones were also flying very early from this stock. The only explanation that occurs to me is that the queen being old, the bees raised a fresh one; and after the latter had been mated, there was no further need for drones, and they were therefore turned out *neck and crop*, and all the larvæ as well. Am I right?—J. R., *Stowmarket, May* 24.

Reply.—If the stock has really been re-queened, as stated—and your theory is a very feasible one—it would partly account for what occurred; but, on the other hand, many similar instances of the wholesale destruction of drone life have been recently brought to our notice where no re-queening has taken place. In the latter cases, no doubt, the weather conditions at the time have induced strong colonies to prepare for swarming by raising drones, as is usual. A period of cold and generally adverse weather then supervened, and, in consequence, bees gave up all idea of swarming; queen-cells were torn down and

their inmates destroyed, only to be followed by destruction of drones directly food began to run short. One or other of the above explanations of the case dealt with will be correct, but which is right an examination of the queen now heading the stock will most readily determine.

[2041.] *Driven Bees Deserting Hive.*—I recently drove a swarm of bees from a skep and placed them in a "W.B.C." hive, giving two frames of their brood removed from the skep. On examining the hive next day I found the bees had all deserted it, nor could I find any trace of them! I have never before known bees to "forsake" a hive in this fashion. Is it not unusual, and what would be the probable cause? As they had also some sealed stores, so I did not feed them.—C. W. P., *Wandsworth Common, May* 28.

REPLY.—You do not say whether the driven bees were set upon the stand previously occupied by the skep, nor even that you made sure that the queen was with the driven bees when the latter were hived. In the absence of these important details, we can only assume that the bees were placed on a new stand; that they were queenless when hived; and that, in consequence, they returned to the parent skep from whence they had been driven. We shall be very pleased to modify the above view if we are wrong as to the procedure followed in driving and hiving.

Echoes from the Hives.

Tothill, Alford, May 25.—Weather very cold again; but how the bees enjoyed themselves on Sunday and Monday last (22nd and 23rd)! I heard of six swarms from skeps on the latter day. R. G.

Chichester, May 27.—The prospect of a good honey harvest here is rather discouraging at the time of writing, but where apiarists have been on the alert and kept the bees going there need be no fear if only we can only get a spell of warm, dry weather. On the other hand, bee-keepers in our county who have quite neglected feeding stocks where required may as well "close their knife," as the saying goes, if they think of obtaining any surplus from the white clover. There has been plenty of fruit-bloom here in the south, but, what with wind and rain, it soon got knocked off the trees. The hedges are now white with hawthorn blossom. If only we could get old Sol to shine on us and the bees. I am sorry to hear that foul brood is still prevalent in Sussex, and have often thought how helpful it would be if an expert could be sent round to get bees off diseased combs, and by uniting into strong lots on to clean foundation, with the necessary instructions as to feeding, &c., and, if possible, healthy young queens to replace old ones—it would stir bee-keepers up to keep their bees in better condition, and tend to eradicate foul brood out of the county. But we must let our motto be *nil desperandum.*—J. D.

Bee Shows to Come.

June 7 to 10, at Portsmouth.—Hants and Isle of Wight B.K.A., in connection with the Royal Counties Agricultural Society. Schedules from E. H. Bellairs, Wingfield, Christchurch.

June 20 to 24, at Birmingham.—Royal Agricultural Society's Show. Letters relating to Bee Department to be addressed, E. H. Young, Secretary, B.B.K.A., 12, Hanover-square, London, W.

July 6 and 7 at Hanley, Staffs.—Horticultural Fête. Medals and liberal prizes for honey. Schedules now ready. Apply J. B. Barrow, Town Hall, Hanley.

July 14 and 15, at Lincoln.—In connection with the Lincs. Agricultural Society. Schedules for the Bee Department from R. Godson, Hon. Sec. Lincs. B.K.A., Tothill, Alford, to whom all entries in this department must be made **on or before June 17.**

July 20, 21, 22, at Roundhay, Leeds.—Yorkshire Agricultural Society's Show. Liberal prizes for hives, honey, &c. Schedules from Marshall Stevenson, Secretary, York. **Entries close June 11.**

July 30.—In connection with Helsby (Cheshire) Flower Show, three open classes and single jar competition. Schedules from Dr. Briant, secretary, Helsby, Warrington. **Entries close July 23.**

August 10, at Clutton, Bristol.—Somerset and South Glos. B.K.A. Annual Show in connection with Clutton Horticultural Society. Six open classes. Schedules from Miss H. Dawe, Long Ashton, near Bristol.

August 13, at Dumfries.—In connection with "Band Contest," the South of Scotland B.K.A. will hold a honey show as above. **Two open classes for "Three's."** Schedules from Mr. J. Kerr, Hon. Sec., Douglas-terrace, Dumfries. **Entries close August 6.**

August 17 and 18 at Dover.—In connection with the Dover Horticultural Society at Dover College Grounds. Additional open classes. Increased prizes and medals. Schedules from H. W. Brice, Hon. Sec. Kent and Sussex B.K.A., Dale Park, Upper Norwood, S.E.

August 17 and 18, at Blackpool.—Honey show in connection with the Blackpool and Fylde Horticultural Society, under the auspices of the L. & C. B.K.A. Schedules from C. E. Riding, Secretary, 9, Central Beach, Blackpool. **Entries close August 8.**

August 17 and 18, at Ince Hall, near Chester.—Open classes for six 1-lb. jars, three 1-lb. granulated, and single 1-lb. jar. Schedules from the flower show secretary, Ince, near Chester.

August 27, at Windsor.—Windsor and District Branch, Berks B.K.A. Bee and Honey Exhibition, in connection with the Liberal Club Annual Flower Show. Schedules from J. Hyde, jun., Hon. Sec., 55, Bexley-street, Clewer. **Entries close August 18.**

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column

WARWICKSHIRE.—*Uniformity in Frames and Appliances.*—1. Whatever change you may have in view with the object of securing

uniformity it is, to our mind, little short of folly to make any deviation whatever from the "standard" frame. The very fact of your complaint about the "present mixed state" of things prevailing in your apiary of ten hives proves the need for a uniform frame throughout, and the "standard," (besides being admittedly the best for all purposes) by whatever maker it is supplied, is or should be exactly the same, viz., outside dimensions—including thickness of top bar—14 in. long by 8½ in. deep; top-bar, 17 in. long ⅜ in. thick; side-bars, ¼ in., and bottom-bar ⅛ in. thick respectively; the width of all being ⅞ in. 2. All quilts or coverings—if cut to proper size—being sufficiently large to rest on side-walls of hive, there is no escape of heat between the "W.B.C." ends and the lugs or projecting ends of top-bar. 3. If price be no object, and since you name the "Cowan" Rapid and Meadows' "Raynor" for choice, we should for all purposes choose the former, but the "Raynor" (especially if chain-geared) is an excellent machine.

R. B. (Hull).—*Examinations for 3rd Class Experts' Certificates.*—1. In preparing for the above examination the candidate must become proficient in driving bees, manipulating a stocked frame-hive, and with the general management of an apiary worked on the most modern and approved methods. He must also be fairly well informed on the scientific side of the subject of apiculture, and have paid special attention to the disease known as foul brood or *bacillus alvei*, so far as understanding its character and effects among bees. Any further information as to books for study in preparing for the examination may be had from Mr. E. H. Young, Secretary B.B.K.A., 12, Hanover-square, London. 2. Comb-foundation can be purchased ready-made for so small an addition to the value of the wax used that almost no bee-keepers ever think of using a home-made article, which is at best a poor substitute for the fine samples now produced.

Puzzled (Tiverton), J. C. T. (Cheshire), and others.—*Immature Drones Cast Out.*—There is no cause for alarm when immature drones are thrown out of hives, under late weather conditions. It merely goes to show that drones are not food-producers, and are tolerated only so long as food is plentiful. Directly supplies begin to fail the drones must go. And the bees don't allow them to stand long on the order of going, but turn them out of the hive mercilessly, as shown. The massacre will cease when warm weather returns.

G. M. S. (Keswick).—*The "Raynor" Honey-Extractor.*—It would no doubt avoid risk of misleading if a new engraving was prepared showing the "Raynor" as now made. But it is quite certain that whatever changes in construction are introduced from time to time will, in the opinion of the maker, at least, be improvements, and not alterations of a retrogade character. As a matter of fact, we have had frequent opportunities of noting the alterations of which our correspondent complains, and have no doubt whatever as to the changes being for the better. For instance, the "tin-backing to cage." This was used mainly to lessen the chance of chilling brood in combs while being revolved in the cylinder. The backing is now dispensed with, because the stupid practice of extracting from combs containing brood is now happily discontinued.

Beverlac.—Your note reached us on Thursday last, and as the Bee Journal is always printed on Wednesday, it was obviously impossible to reply in current week's issue. However, we may say that the sample of comb sent is badly affected with disease, and bees and combs should be destroyed.

A. D. (Stirling).—*Using Partly Filled Sections Renewing Combs.*—1. It is not wise to use sections for new honey in which there is some of last season's gathering. On the other hand, clean store-combs for extracted honey are most useful, helpful in securing a big crop. 2. Top-bars of frames should be scraped clean at the time of the usual "spring cleaning," at which time the scrapings fall to the bottom, and are cleaned off with the ordinary debris. 3. Combs should be renewed gradually, about three new ones being built each year in lieu of any that are found to be faulty. By this means all combs are kept workable, and no misshapen or very old ones are tolerated. 4. To get new combs built, insert a full frame of worker foundation in centre of brood-nest when bees are strong enough to cover say six combs. An outside comb with no brood in cells is removed to make room for the added frame. In a week repeat the operation as before.

W. Wills (London, N.W.).—1. Messrs. Lee & Son's, 5, Holborn-place, is the only establishment we know of in London where hives and bee-goods may be seen. Consult our advertisement pages for names of others outside London, and for hives of bees for sale. 2. Back numbers of this journal may always be had from this office for 1d. per copy and postage.

Beginner (Sussex). — *Building up Stocks from Driven Bees.*—1. It is much better to put the driven bees on to ready-built combs, if such are on hand; but, failing these, full sheets of foundation (wired) should be used. If you can secure the driven bees in mid-August and crowd two lots on to about four or five frames of foundation there will be a reasonable chance of getting six or seven combs built out by the time breeding ceases for the year, if the bees are fed regularly and liberally. 2. There is no need for joining so many as three or four stocks of

driven bees to form one colony, unless they are very small lots. 3. Each newly-established stock formed should have from 15 lb. to 20 lb. of stored food to winter on. 4. The queens may be left to settle among themselves as to the "survival of the fittest." 5. We do not recommend any special dealer for bee-goods. Consult our advertising pages.

W. R. B. (Bolton). — *Uniting Swarm to Established Stock.*—Hive the swarm in new hive and let the bees do their best for the present season. Then unite in autumn if necessary, but on no account join the two lots now.

Special Prepaid Advertisements.

Twelve words, Sixpence; for every additional Three words or under, One Penny.

GOOD SWARMS of BEES FOR SALE, 10s. 6d. each packed. F. GAY, Cranbourne, Salisbury. V 43

STRONG HEALTHY SWARMS for postal order, 12s. 6d. Mrs. MAY, Parwich Hall, Ashbourne. V 42

LIGURIANS. Natural Swarm Wanted. Lowest price to GIFFORD, Renfrew Lodge, South Ealing. V 72

NATURAL SWARMS or Prepared ones, June, 12s. 6d. Rev. JARVIS, Coleford, Glos.

SWARMS NOW READY. Guaranteed free from foul brood. 10s. 6d., packed free on rail. HIGLEY, Expert, Timberhonger, Bromsgrove. V 68

QUEENS, Stocks, Nuclei, and Swarms. Queen raising a speciality. Eleventh season. Address, Rev. C. BRERETON, Pulborough, Sussex.

SWARMS of English Bees 2s. 6d. per lb. Also New Honey in 1-lb. sections, well filled. E. GARNER, Broom, Biggleswade, Beds. V 73

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. Neat Patterns. W. WOODLEY, Beedon, Newbury.

PRIME Natural Early June SWARMS of my selected strain of English Bees, all 1897 queens, carefully packed and put on rail at 12s. 6d., larger 15s. (Telegrams Chieveley free.) W. WOODLEY, Beedon, Newbury.

BEES! SWARMS guaranteed healthy. May, 15s.; June, 12s. Carriage paid; cash with order. H. JEANES, Bryncoch, Neath, late Expert to J. GIBBINS, Gilpach. V 36

FOR SALE, Two very strong Stocks of Bees in nearly new modern wood hives, ready for swarming or honey producing. Price 35s. each. Apply, H. HASLUCK, Olton, Warwickshire. V 70

WILL EXCHANGE Cycle Lamp, plated, Fishing Rod, roach or pike, pair Clap Nets, cages complete, for Two Swarms Bees or Hive. FARMER, Winthorpe, Skegness. V 74

22ND YEAR. Good Healthy Natural Swarms with '97 prolific queens. My well known strain, 10s. 6d., 12s. 6d., and 15s., on rail, '97 fertile queens 5s., '98 fertile queens 3s. 9d. both delivered. ALSFORD, Expert, Blandford.

BEES and HONEY. — SPEARMAN, Colesbourne, Andoversford, can supply the very best Cotswold Clover Honey for this season, extracted 57s. cwt., sections 9½s. gross on rail; also good Healthy Swarms Bees, 8s 6d. to 10s 6d. Boxes returned. Everything guaranteed. Approval deposit. V 71

NATURAL SWARMS of English BEES, 10s., 12s. 6d and 15s. each, according to size with '97 Queens. Swarm box 1s. 6d. extra, or return (carriage paid). Also six Frames, brood with Queen, and a good Stock Bees 25s. I have about 25 of these For Sale, packing extra or returnable. Orders filled in rotation. A. J. CARTER, Newfields Dairy, Billingshurst, Sussex.

Prepaid Advertisements (*Continued*).

FOR SALE.—Seven Standard-Frame Hives, in good condition, from 5s. 6d. each. Also lot Standard Body Boxes and Shallow Frame Supers to take 15½ in. top bar, well painted, 2s. 6d. and 2s. each, nearly new, some never been used. One Honey Ripener 7s., one Super Clearer 3s., one Swarm Catcher 4s. 6d. About one gross Screw Cap Bottles, 1s. doz. All new. BEE-KEEPER, 206, Penistone-road, Sheffield. V 62

J. S. GREENHILL,

(27 years with Messrs. G. Neighbour & Son)

Manufacturer of up-to-date

HIVES AND BEE APPLIANCES OF EVERY KIND,

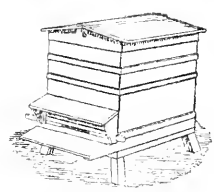
80, Graham Road, Wimbledon.

Illustrated Catalogue Post Free.

H. N. BAXTER,

Sedbergh,

Bees, Honey, and Appliances.



C. H. VARTY,

Etwall, near Derby,

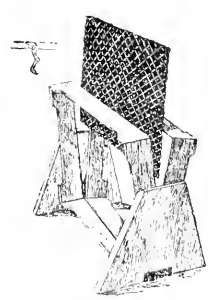
Awarded Prizes during 1897 for Bee Hives and Collection of Appliances at Royal Show, Manchester, Nottingham, Chester, Burton, Shrewsbury, and Derby.

Hives complete from 10/6 each

New Illustrated Catalogue post free.

SLADEN'S "V-SLIT" SECTION.

REGISTERED.



Dropping in Foundation.

In this Section the Foundation is **better and more easily fixed** than in any other. *Vide B. B. J.*, 1897, pp. 431 and 487.

Sladen's Sections are manufactured for F. Sladen by The A. I. Root Co., and **no bundle is genuine unless it bears F. Sladen's facsimile signature Trade Mark.** Bee-keepers are **hereby warned** to refuse all imitations, which will be found to be inferior and otherwise unsatisfactory.

To be obtained from **F. SLADEN**, Ripple Court Apiary, Dover. Also from Mr. W. P. MEADOWS, Syston, near Leicester, and Messrs. JAMES LEE & SON, 5, Holborn Place, London, W.C.

First introduced, November, 1895.

GLOUCESTER

is a very good Railway Centre for the West of England, so Bee-keepers living in this part of the country should try **E. J. BURTT,** who keeps a large and varied stock of **Bee Appliances** ready for prompt delivery.

EDWD. JNO. BURTT,

Bee Appliance Manufacturer, GLOUCESTER.

Illustrated Catalogue Free.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

A meeting of the Council was held at 105, Jermyn-street, S.W., on Friday the 3rd inst., under the presidency of Mr. E. D. Till. There were also present the Hon. and Rev. Henry Bligh, Major Fair, Miss Gayton, Messrs. H. W. Brice, W. Broughton Carr, W. O'B. Glennie, J. M. Hooker, J. H. New, T. I. Weston, E. Walker, C. N. White, and the Secretary. The Chairman read a letter from Mr. W. H. Harris, regretting that through indisposition he was unable to attend the meeting.

The minutes of the previous meeting were read and confirmed.

Four new members were elected, as follows:—Mr. S. J. Blackwell, Brookshill, Harrow Weald; Miss M. A. Henty, Abbot's Langley; Mr. F. Rounds, 25, York-road, Birkdale; Mr. C. C. Tudway, the Cedars, Wells.

On behalf of the Finance Committee, Mr. New presented a statement of income and expenditure for the month ending May 31, on which date there was a bank balance amounting to £64 3s. 11d. The recommendations of the committee in regard to payments were approved by the adoption of the report.

On the recommendation of the examiners of candidates for first-class certificates, it was resolved to award the diploma of proficiency to Miss L. A. Dunington. In response to applications received from various county Associations, it was agreed to appoint judges and examiners to officiate at fixtures in Essex, Hampshire, Herefordshire, Somerset, and Wilts. It was also resolved to nominate Mr. W. Broughton Carr and the Rev. R. Errington as judges in the honey department at the Dairy Show in October next.

A sub-committee consisting of the Rev. G. W. Bancks, Messrs. H. W. Brice, J. M. Hooker, E. D. Till, and E Walker, was elected to supervise the Association's apiary at Swanley.

The Secretary reported that a number of nominations of persons considered to be competent judges of honey and bee-keeping appliances had been received from affiliated Associations, and it was decided to hold these over for consideration after the whole of the replies to the circular letter on the subject had been sent in.

YORKSHIRE AGRICULTURAL SOCIETY.

We beg to remind intending exhibitors that the general entry for the above Society's Show at Leeds closes on the 11th inst.

Entries at double entry fees will be received up to Saturday, June 18.

NOTTINGHAMSHIRE B.K.A.

ANNUAL SHOW.

The annual exhibition of the Notts B.K.A. was held in a special tent on the show-ground, at Colwick Park, Nottingham, on June 1 and 2, the stewards being Messrs. W. S. Marriott, G. E. Puttergill, and J. McKinnon. For the condition of the season the exhibition was a very successful one, samples being sent from all parts of the county. Owing to the time of the year, none of this season's honey could be shown. The show tent was rendered very attractive by reason of the decorations, and there were staged two trophies each containing 80 lb. of honey. During the several days of the show Mr. C. N. White and Mr. P. Scattergood lectured in the bee-tent at brief intervals, and demonstrated the various ways of manipulating bees.

Mr. C. N. White (St. Neots) and Mr. R. Turner (Radcliffe) were appointed judges, and made the following awards:—

Collection of Bee Appliances.—G. H. Varty, Etwall, Derby.

Most Complete Frame Hive.—1st, J. McKinnon; 2, G. H. Varty.

Hive Made by Amateur.—1st, J. T. Faulconbridge.

Most Attractive Display of Honey in trophy form.—1st, J. T. Faulconbridge; 2nd, G. E. Puttergill.

Exhibition of Extracted Honey.—1st and silver medal, J. & W. Herrod, Sutton-on-Trent; 2nd, P. Scattergood; 3rd, W. S. Marriott.

Six 1-lb. Sections.—1st, T. Marshall; 2nd, G. E. Puttergill; 3rd, J. & W. Herrod.

Granulated Honey.—1st, P. Scattergood; 2nd, W. S. Marriott; 3rd, G. Smith.

Shallow Frame of Comb Honey.—1st, W. Lee; 2nd, J. & W. Herrod.

Honey Vinegar.—1st, P. Scattergood; 2nd, J. & W. Herrod.

Observatory Hive.—1st, G. E. Puttergill; 2nd, G. Marshall.

Bees Wax.—1st, F. Hallam; 2nd, G. Marshall.—(*Communicated.*)

WELLINGTON (SALOP) AND DISTRICT B.K.A.

The Bee-Keepers' Association which was formed last autumn is now showing signs that the committee are determined to make it a useful and successful body. They petitioned the County Council to hold lectures during the winter months, with the result that a lecturer was appointed, and several series of lectures have now been delivered in different parts of the county. Bee-keepers are to be congratulated on the willingness with which the County Council took up the proposal, and no doubt a very great stimulus has been given to bee-keeping throughout the shire in consequence. It is hoped that the County Council will be induced to

either appoint experts, each one of whom shall take charge of a specified district, or that they will assist, with a grant, the present Associations, to enable them to engage an expert for their own particular body.

The course arranged at Wellington were five lectures and a demonstration. The lectures were attended by a very enthusiastic number of ladies and gentlemen, who were delighted with the very exhaustive way the lecturer, Mr. J. Palmer, of Ludlow, treated the subject. The average attendance for the series, being fifty, must be considered very good, and quite up to expectation.—(*Communicated*).

BRISTOL, SOMERSET, AND SOUTH GLOUCESTERSHIRE B.K.A.

This Association had what may be called a field day on Saturday last, the 4th inst., when the Council, by invitation from Miss Hill-Dawe, the honorary secretary, met at "The Home," Long Ashton, from two till eight. The interest in the proceedings was greatly enhanced by the presence of Lady Greville Smyth, who, as President, took the chair at the afternoon meeting, though she had only returned the day before from her winter stay in India. The Rev. Mr. Deering, the vicar, an interested bee-keeper himself, and Mrs. Deering, were also present. The Society's bee-tent was erected in the grounds, and in this during the afternoon some of the practical work of the apiary was illustrated, and amateur "judging and honey-tasting" took place. At the afternoon meeting, after Mr. Hamlyn Harris, F.E.S., had exhibited some interesting photographs of his laboratory, &c., the President called on Mr. Withycombe, the association expert, for an account of his spring visits, in which he had found many stocks backward, through unfavourable weather, and sometimes more than a quart of bees thrown out. Mr. Jordan gave an address on the honey-bee's special adaptation to the work of the hive and to the fertilisation of flowers. The gardens, grounds, apiary, and museum were then visited. Three well-designed hives were on view, and that of Mr. Sams, of Bath, a "Wells" hive, was most ingenious. We hope to hear more of it, as it is to be exhibited at the Royal in the "Inventions" class. The company answered to the tea bell like bees in the fields to the premonitions of a storm, and with the hostess presiding, and the vicar as "vice," a pleasant hour was spent. After tea the Council meeting was held, Mr. Hamlyn Harris presiding. Among other business was the consideration of foul brood, as it had been found in the district, and Mr. Withycombe was empowered to recommend members troubled with it to seek the assistance of accredited members of the Council in following up the treatment he had begun. The question of non-official visiting of the members was also considered, and considerable information on this point was obtained Assistance was given to the Council by Mr. Brown, an honorary expert. Hearty votes of thanks were accorded to the President, Lady Smyth, and the genial and hospitable lady, Miss Dawe, who had provided such a unique entertainment.—*Communicated.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[3283.] The weather is the chief topic both with beemen and farmers generally. The cold, wet, dull and boisterous May has been succeeded by a warm, moist, dull June. In fact, Sunday the 5th, was the only bee-day out of the six which has already passed. The cold spring has placed us in a very backward position; yet, notwithstanding the dull cold weather we have abundant crops of grass everywhere around us, fields of trifolium just bursting into blossom, and the sainfoin also beginning to bloom. These sources of honey income would give us our hearts' desire in a few days, if we could only be sure of suitable bee weather; full supers and swarms galore for the bee-keeper, and everything viewed through rose-coloured spectacles by all whose income is connected with the land and its produce. But alas for bee-men! already we hear of the mowers at work laying the grass in swathe in our neighbourhood. This is what goes against our share of the good things, for once the sainfoin is cut we get no aftermath on which the bees can work to any advantage.

I would like to offer a word of advice to the novice in bee-keeping who is now preparing the hive in which the new swarm is to be domiciled, and that is, take care that the foundation is fixed firmly in the tops bars; also be sure that the hive stands level, and only give as many frames as the bees cover; then in a few days place another frame of foundation in the centre of the brood nest.

I notice that our American brethren have in their journals been discussing the question of what they call "facing" comb honey, and have certainly been very much surprised at the "points" that have been brought forward in favour of "facing," *i.e.*, putting the best sections at the glass side of the crate in which they are sent to market. If all the sections are equal in quality throughout the crate, there is surely no harm in placing the sections best side out. Anyone with experience in working for comb honey knows that one side of a section is

generally better or more evenly capped than the other side; and if the inside rows of sections are equal to the outside ones, no injustice is done, and no deception practised. If, on the other hand, the outside row are superior as sections to the inside ones in the same crate, they are not a fair sample, and in my opinion there is fraudulent intention to deceive the purchaser on the part of the seller. Moreover, this method of doing business must in the long run recoil on the head of the man who practises it. I think that every bee-keeper who has honey to sell should take care that every section or jar of honey is equal to the sample, and sell those not up to the mark at a lower price, or at a fair value compared with the price charged for the first selection or quality.—W. Woodley, *Beedon, Newbury.*

QUEEN CAST OUT OF "WELLS" HIVE.

[3284.] On May 2 I was invited to examine a "Wells" hive belonging to a friend. He wished to have a frame or two of brood taken from the stronger compartment of the hive and given to the weaker side in order to strengthen the latter. On examination, I found on the strong side the whole of the eight frames it contained about filled with brood. The other side was on six frames, the three centre ones having brood in each. I searched everywhere for the queen but failed to find her, but on examining the perforated dummy, I found it had bent with the heat of the hive and was raised up above the floorboard sufficient to let bees pass to and fro quite freely, and in consequence I concluded that there could only be one queen in the hive. My friend, however, wishing to work the hive on the "Wells system," I decided to straighten the dummy and replace it after being made right. This done, I assured myself that the queen was all right on the strong side, and that there was a frame with newly laid eggs on the weak side, and then left them. On the 17th I returned to see if any attempt had been made to rear a queen on the weak side. An examination, however, showed that no queen had been reared, but that, on the other hand, the frames of brood had increased to four. This seemed to show conclusively that I must have missed queen when overhauling the hive on May 2; but on looking at the dummy I found that the bees were still able to pass freely under it, owing to the floorboard having again sunk at the joint, leaving a bee-way for bees. It being impossible to remedy this, I advised that the dummy should be removed and the hive supered, which was done. I then congratulated my friend in having a queen which had produced the extraordinary number of sixteen frames of brood so early in the year as May 17. Judge my surprise, then, on the evening of the 26th, when he arrived with a dead queen which he had, eight days previously, found on the ground in front of the weak side of the "Wells" hive. It is an old queen with ragged wings (at least, that is my opinion), but I send it for your inspection. This seems to me a case of two queens living in a hive in harmony together. Of course, it is always possible that I might have crushed the only queen in the hive on the 17th, but I feel positive that such was not the case, because the queen I saw was much larger and lighter in colour than the one I now send. Had it been so, I think the hive would have swarmed, if young queens had been raised, it was so very strong, and the super on the hive was only a small one.

Do you think that two queens would live together in unity under the circumstances I mention? Owing to my being in the middle of removing to Dumfriesshire, I cannot get up to see the bees again, or I should be able to see if queens were being raised.—H. Marrs, *Midlothian, May* 30.

[Cases have certainly been recorded where on the supersedure of an old and failing queen, the latter and a young one raised by the bees have lived together in amity for some time. If this was the case in the above instance, it may be that the disturbance caused by examining the combs has hastened the old queen's death by "balling." There is also the fact of the brood having increased on the weak side of the hive, and this points very strongly to a young fertile queen being in possession there.—Eds.]

DO BEES STEAL EGGS FOR QUEEN-REARING?

[3285.] The following account of queen-rearing extraordinary may be interesting to your readers, as I believe it is a very rare occurence. About April 14, the expert of the Worcestershire B.K.A., examined my hive and found no queen nor any brood in combs; he tried to procure me a comb of brood but failed, and therefore promised to bring me a queen as soon as possible. About three weeks after his visit, I noticed the bees were very busy bringing in pollen and flying very strong, and began to suspect there was a queen in the hive. The expert came again about two weeks later and found it was the case; there was quite a young queen in the hive and plenty of brood in the combs. The expert is perfectly certain that he did not overlook the queen in his previous visit; the bees being much diminished in numbers also proves this, therefore it is evident the bees fetched an egg from some neighbouring hive and reared a queen for themselves. The expert tells me he has once or twice heard of this being done; the nearest hive is between half and three-quarters of a mile distant.—E. S., *Worcester, June* 5, 1898.

[Notwithstanding the opinion of the expert referred to, we think that most experienced bee-keepers will agree that the above was merely a cessation of breeding for a time in

mid-April caused by the inclement weather. We are quite aware that bees do extraordinary things at times, some persons even averring that they do steal eggs when in great straits for a queen; but the above case is, we think, explained as we suggest.—EDS.]

DEALING WITH FOUL BROOD.

A WORKING MAN'S EXPERIENCE.

[3286.] On my weekly perusal of your valuable journal, I find by the reply to correspondents who send samples of comb for inspection, that foul brood is prevalent in many places. In my small apiary of eight hives I found this complaint in one, and in this case I have burnt bees, frames, and all, hoping by this means to stop any further spread of the dread disease. On examining one of the combs affected I observed putrid matter at the bottom of some cells with eggs on the top of it, some of the larvæ being even advanced a stage towards development on the same offensive material. I noticed similar conditions in a comb I saw in this locality some time ago. This state of things quite convinces me of the utter impossibility of trying to cure foul brood by treatment on the affected combs. I would also say some of the cells containing pollen, then being used as food for the larvæ, seemed to be in a state of fermentation (on the surface only). Further reflection then causes me to ask—What does this appearance of fermentation on the pollen mean? Is it simply a ferment, or is it alive? I have thought the latter is more than possible, and I am now sorry I did not save a little of the substance for examination under a magnifying glass to try and satisfy myself. However, I am no scientist, but only a working man bee-keeper, with not over much time to follow up such delicate matters. I should, however, be glad to be favoured with your remarks on this, to me, peculiar appearance.

Weather bad; sycamore bloom about over; may blossom full out; no honey yet gathered, and no swarms heard of in this neighbourhood yet.—G. D., *Harrogate, June 3.*

[So far as the depositing of eggs in cells containing the "putrid matter" mentioned, we have seen a photo of such a comb where the egg or eggs (sometimes two or three in a single cell) could be plainly seen as deposited on the dead and diseased brood; but we have never before even heard of eggs having hatched out, and "brood advanced a stage further towards development" under such conditions. Regarding the second question, *i.e.*, supposed fermentation of pollen, it is one we cannot decide from the description given. If a sample had been saved and sent it might, of course, have been simple enough to explain, but failing that, we can only say that if there was any "life" about the pollen in cells it would be that of the "pollen mite," which is analagous to the mite found in old cheese.—EDS.]

DRIVING BEES.

CARRYING DRIVEN LOTS ON BICYCLES.

[3287.] There is no doubt that for "carrying" only driven lots of bees, Mr. Bellair's plan, described on p. 212 of B.J. last week, is far and away better than mine. It, however, does not fulfil the conditions I had to work under when I devised my plan. In my case it was necessary to take everything required for the driving with me, as I could not depend on finding even a seaworthy skep not in use. Last year was my first attempt at "driving," and, perhaps, it was due to inexperience, but I found it necessary to place the skep containing the bees on the old stand, having first placed a piece of cheese-cloth, over the stand and leave them there till the evening to let all the bees collect. I note Mr. Bellairs says: — "If you do not drive all the bees cleanly, hang the bag on a bough open, and the fliers will all rejoin the 'swarm' in a few minutes." I presume this is done at the spot where the bees are driven. I suppose the bag is hung open end down? Also when adding other lots is it necessary to make certain of securing all but one queen? and can you proceed with the driving of another lot close to the bag hung up to catch the fliers?

If Mr. Bellairs would kindly give us a short article describing minutely his *modus operandi* of driving from beginning to end I am sure it would be greatly appreciated by many of your readers. I say "minutely" advisedly, as often experienced operators when describing processes omit, to them, trivial things that greatly puzzle the inexperienced.—D. G., *Ilminster, June 4.*

A BEGINNER'S TROUBLES.

[8288.] My commencement of the pleasures and profits of bee-keeping has not until now proved very successful, except to make me most fascinated with the pursuit. I started in May, 1896, with a swarm, and my sister at the same time purchased a stock—which afterwards proving to be badly diseased, was destroyed. In 1897 I looked forward to reaping some reward for my labours in the shape of a bountiful harvest of honey, and was rather disappointed at not securing more than 35 lbs. This would, however, have satisfied me as a beginning, had I not found unmistakeable signs of foul brood in the hive, though not in its worst stage. It was getting late in the season, so I made a clean sweep of everything, and started afresh with 5 lbs. of driven bees and new hive.

I must confess to having done one thing that has since caused me anxiety—viz., I hived the driven bees on to combs that had been in an extracting super on the former hive. But the combs had not been bred in, however, and

I had not seen any signs of disease in the hive at the time of their removal.

I gave the new lot of bees 28 lbs of sugar, made into syrup and medicated, and packed them for the winter on ten combs—they were left undisturbed until April 3, when I made a searching examination and found all apparently well. Two combs having a good deal of drone cells, and very little stores were removed. Of the other eight combs, five had brood and stores, and two were filled on both sides and one on one side with sealed food. From this date the colony rapidly increased, and having previously completed the number of combs by giving two sheets of foundation at intervals, and kept a watchful eye on the brood, I supered on May 6 with a box of shallow frames and full sheets of foundation (there being a wealth of fruit bloom at the time).

On May 26 the two centre combs were sealed over and honey in all the others, and the hive choked with bees, so to prevent any chance of swarming I gave a second box of shallow frames and half sheets of foundation, and am now pleasantly anticipating an ideal June for the bees.

I have not fed at all this year, and, considering the number of bad bee-days in May, I am more than satisfied with present condition of the colony—which condition is undoubtedly due to the teaching promulgated in BEE JOURNAL—that bees should be "spring fed" in the autumn, and perhaps partly to the fact that, having purchased 28 lb. cane sugar, and not thinking it worth while to keep just a few pounds by me, I decided that the bees might just as well have the lot.—M. W. S., *Longford, June* 2.

BEE NOTES FROM DERBY.

[3289.] The weather in this district has been trying to the bee-keeper. A mild opening of the year produced early breeding with a consequent large consumption of stores, and the cold, wet weather following prevented much honey from being gathered from the early fruit blossom. The week before last I found drone brood outside one of the hives, and an examination proved, as suspected, that the hive was nearly destitute of food; 8 lb. of syrup was at once given in a "rapid" feeder, and the name of the feeder was justified by its (the syrup) disappearing in a few hours. The other stocks were fed, and the following week proving brighter, boxes of shallow-frames were put on. These were taken to at once and new honey stored presumably from the hawthorn which is now breaking into full bloom. However, to-day (Whit-Tuesday) the rain has returned, and feeding will soon again be the order of the day, unless prospects brighten.

Wax and other Moths.—I have been troubled very much with the ordinary clothes-moth larva, which gets into the woollen quilts of the hive and takes a fancy to snug corners —including cells of disused comb — for spinning its cocoon. These moths will eat the silken linings of brood-cells, and for this reason are mistaken by some for the wax-moth, but I never find that they touch wax. I once saw some genuine wax-moths in Hampshire, the larva of which gnawed large holes through the comb and did a lot of damage. They were much larger than the clothes-moth. On three hives quilts made of old sugar-bags are used, and the moths do not seem to touch these, as they are made of jute. These bags can be bought cheaply, and for the reason given are better than old carpet or other woollen material. —F. C., *Derby, June* 1.

HONEY OF 1898.

[3290.] It gives me great pleasure to say that, spite of the stormy weather we have had during the last three weeks, I have now two stocks of bees with sections ready to "take" on both hives mentioned. There are about six of the sections quite capped over, and on another hive I have ten shallow-frames drawn out and honey stored in them, but not yet capped. I consider these will be voted "early sections for 1898," considering the very unsettled weather we have had. I fact, no one I have met with has had equal good luck with myself about here, nor have I seen any mention in the B.B.J. of sections or surplus-honey taken this season. Have you heard of any? I had part of a section of new honey for tea to-day, and enjoyed it immensely.—P. L. A., *Oxford, June* 6.

[Since our correspondent puts the question as to our having yet heard of sections of this year being ready, we must tell him that we heard of a few being filled and fit for removal at Ightham, in Kent, about a week ago. All the same, we congratulate him on being not only as among the early ones, but as the first we know of who has had honey from 1898 on his tea table.—EDS.]

STARTING BEE-KEEPING.

BEGINNING ON SOUND LINES.

[3291.] Kindly forward the two BEE JOURNALS referred to on page 214 of this week's issue, in which appears the article on "The 'W. B. C.' Hive, How to Make it," by Mr. Robt. Peebles. Also allow me to express my thanks for your good little paper, the B.B.J., which I have now been taking for about twelve months past. I have always been much interested in bees and their ways, but from want of a place to keep them I never had an opportunity of becoming a bee-keeper until May, '97, when I purchased two stocks. I also got the "Bee-keepers' Guide Book" at the same time, and may say I did exceedingly well the first year. The Rev. R. Coulton made me a present of ten bound volumes of your journal, and I fancy I have about swallowed

all the information contained in the lot! I never like to do a thing by halves, or unless I do it well—bee-keeping not excepted. I have made several hives, and from the very first realised the good idea of the "standard" frame and stuck to it. Many hives in this district have, or had, frames of all sizes. I have shown their owners the advantage of a uniform standard frame, and have altered several hives to suit it. I have also just finished a good-sized bee-house or workshop to stand in my apiary (which is some quarter of a mile distant), and in this house I shall do my bee-work, honey extracting, &c.—R. C., *Spennymoor, co. Durham, June* 4.

Queries and Replies.

[2042.] *Assisting Lady Bee-keepers.* — I venture to ask a few elementary questions in your admirable and scientific journal under the following circumstances :—I have suddenly been obliged to assume the responsibility of bee-keeping with no other qualification than a keen, but abstract, interest in the habits of the most complicated insect we know of—*i.e.*, the honey-bee. I possess a very fine patent non-swarming hive, called the Conqueror, which last year, just a fortnight after the stock was put in it, threw (is it threw, or grew, or flew ?) off a sturdy swarm ! This was duly hived by the proper or skilled bee-man, who later took out honey, put in quilts, and eider-downs, and hot-water bottles, and tea and sugar —at any rate, a number of winter comforts necessary to the bees—and went away. This spring I came on as acting bee-mistress, and find a very strong stock in the biggest hive, and the swarm of last year in the other (which is also a bar-framed one) fit and well. The bees have been exceedingly active on my wallflowers, dandelion, currant, and apple-blossom, and this being so, the winter coverings and sugar-trays have been removed for the season, and supers put on instead. What I want to know is (1), should I let a swarm come from the big hive—they have been making a tremendous noise these two days past—or should I let them alone till they need more supers to fill ? Or (2) should I boldly dive down into the brood-chamber, and cut out queen cells (let me add if I can find and recognise them) ? You see, I have a fine bee library, and have been dipping into it, though the books strike me as difficult for a novice, and I am aware that my "little knowledge is a dangerous thing," and that I may do more harm than good. The weight of country opinion round me is against anything modern, and my "all-round man," who has bees of his own, thinks "bees kept winter after winter must get very old and lazy." I tried to explain the average age of bees, but it was no use. 3. Would it be possible for me to find a travelling bee-man ("expert," I think, he was called) such as I heard of once in Bucks, who came (sent out by the County Bee Association), and told you exactly what state your bees were in, what to do, and how to do it ? Does such a Providence pervade East Hants, and how does one lure him to one's bee-garden ? What I want is one practical demonstration by a modern bee-man. How can I get it ? Enclosing my card, and with apologies for intruding so far upon your valuable space, I am, A Struggling Bee-Mistress, *Alton, Hants.*

Reply.—1 and 2. Presupposing that comb-honey is wanted in preference to swarms—and also assuming that the non-swarming hive will be more successful in securing the object for which it is designed—the bees may safely be left alone for a few days longer, as we fear the supers now on will more than suffice for the surplus honey gathered. Then, if good bee weather prevails, add another surplus chamber below that already on the hive. 3. Write to Mr. E. H. Bellairs, Hon. Sec. of the Hants B.K.A., Wingfield, Christchurch, who will no doubt assist you in the way desired.

[2043.] *Field-beans as Bee Forage – Outcast Bees.*—1. There is about twelve acres of field-beans in full bloom within a quarter of a mile of my hives, and I have noticed bees at work among the blossoms. They cannot, however, reach the honey from the front of the flower, but from holes made near the base. This leads me to ask, do the bees make these holes themselves ? 2. What are the small, black, shiny bees one often sees at the hive entrance ? They appear smaller than ordinary bees and very dark in colour ; and while they are busy cleaning their antennæ and tongues, one or two other bees are nearly always seen vigorously pulling them about and searching them all over, so to speak, as if to find out what they had got in their pockets ! I have often watched them, but do not know whether they are old bees or dwarfs ?—H. F. M., *Herts, June* 2.

Reply.—1. The holes found at base of the bean-blossom are generally supposed to be the work of the common bumble-bee, but we have never been perfectly certain ourselves that some portion of the numerous punctures are not made by the hive-bee. 2. The black, shiny bees referred to are not seldom a puzzle to bee-keepers on being first noticed. They belong to no special variety, but to a class of the bee community (unfortunately, too common among humans) who have, to use a familiar term, "gone wrong." They won't work, in the ordinary sense, preferring to live on the labour of others, and in this way visit any hive within reach, helping themselves wherever they can. They thus become known as pilferers by profession, and get so roughly pulled about by well-ordered bees, wherever met, that, in course of time, every trace of

natural pubescence or hairyness is worn off the body, which becomes "black and shiny" in consequence. "Poor little beggars," as a kindly-disposed bee-man observed, "once started on their evil courses, they have a hard time of it while life lasts," an observation which shows how widely applicable is the truth as to the way of transgressors being hard!

[2044.] *Bees Killing Drones and Casting out Drone Larvæ.*—Can you account for the peculiar behaviour (to me) of the bees in one of my hives? The hive is in a flourishing condition, full of bees at work all day, busily carrying in pollen, &c., and is headed by a last-year's queen. But some days ago I noticed the bees fighting the drones as they came out (the drones in this hive made their appearance the first week in May); then for several days afterwards the weather was abominably wet and windy, and the bees, unable to do any outdoor work, amused themselves by destroying and carting out all the gentlemen of the colony they could get hold of. The alighting board on one evening was a gruesome spectacle, as much like a butcher's shop as anything I have ever seen; thirty-one drones were lying dead or dying! Not only did the bees turn out fully-developed insects, but I found several drone larvæ amongst the corpses. And, although the weather became finer afterwards, they were at the same old game, and many drones could be seen crawling around the hive on the ground—before laying down to die, I suppose. Now, what does it all mean? Is it an uncommon thing, or only another example of one of these most wonderful insects' "fads"?—E. H. S., *East Bergholt, Colchester.*

REPLY.—Our correspondent must attribute the "gruesome spectacle" he has witnessed, not to a "fad" on the part of these "most wonderful insects," but to a very hard fact in the economy of bee-life, viz., that when famine is staring them in the face the idlers of the community must go; and, once this fact is realised, the drones "go" in the fashion he so well describes above. Had the sun shone and honey been abundant, the "gentlemen of the colony," as he terms them, would have been kept on—for "decorative" purposes, perhaps—but, anyway, in the happy idleness which makes up the life of the drone-bee.

[2045.] *Management of Swarms.* — The BEE JOURNAL is a capital paper, and as I know you are willing to help a beginner and a lover of bees, I ask the favour of a reply to the following: A hive swarmed and by some mischance the queen got lost. After clustering for a short time on a clump of nettles, the bees returned to parent hive. Ten days later the hive swarmed again and about two-thirds of swarm went to same clump of nettles, the rest settling in a tree near by. However, I put both lots in one hive. Now, my questions are:—1. Why did swarm divide in two parts? Would there be two queens, or did bees remember the old spot? I put them in one hive. 2. Why do bees swarm when they have an empty rack of sections on hive?—LOVER OF BEES, *Bishop's Lydeard, June* 3.

REPLY.—1. It is more than probable that a young queen would be found in each cluster if the two portions of the swarm showed no disposition to unite of themselves. 2. Bees frequently swarm with plenty of vacant surplus-room on the hive, and it is one of the "points" gained by experience to so give the spare-room for storage and ventilation before preparations for swarming have been begun that the "swarming fever" is kept down; as once the notion of "emigrating" is started it is almost impossible to stop it. The remaining queries put by our correspondent may be answered as follows: 3. There is no hard and fast rule about placing hives. Suit your own convenience and comfort in working, and a "clear flight"—with S.E. aspect where obtainable—for the rest, give the hives a sheltered position and they will be all right. 4. We cannot tell what it is possible for a swarm to do this year, so much depends on the season. 5. The question of two versus four bee-way sections is entirely one of personal preference, try both and then choose between them. 6. Bees will not build comb below bottom bars of frames when the floor-board is lowered for ventilation in hot weather.

[2046.] *Giving Surplus Room—Above or Below.*—I read in this week's BEE JOURNAL (page 211) the advice to place racks of sections on *top* of instead of *beneath* others when more room was required; with very little difference in the success of both methods. 1. I should like to receive something like a positive assurance from your ripe experience as to whether one is as successful, or very nearly so, as the other. To a number of novices like myself it would be much easier to place additional surplus upon the chambers above than to raise those already on to place another underneath; with all the danger of rousing the animosity and the consequent stinging of the bees. I suppose the bottom rack or box would be *finished* first, but could not be removed without a good deal of bother. 2. Will you kindly say through the medium of the JOURNAL as to whether *you* approve of the—shall I call it "new method?"—G. K., *Hornsey, June* 3.

REPLY.—1. We can but assure our correspondent that the advice given on page 211 *is* the result of what he is good enough to call our "ripe experience." In fact, the practice of so dealing with surplus-chambers was first adopted in days when our time (or rather bee-time) was so precious that we were glad to follow any plan which allowed us to give a large number of surplus-chambers to our hives in a very small number of minutes. And being unable—as we thought—to see any

appreciable disadvantage in so doing, we, in the words referred to, simply invited others to try the plan on a few stocks, and, after judging results by the same test as we ourselves did, adopt or discard the advice given. 2. Of course, our approval of the method—which is not new—goes without saying. But the question has been discussed *pro* and *con* in our pages years ago.

WEATHER REPORTS.

WESTBOURNE, SUSSEX,
MAY, 1898.

Rainfall, 3·58 in.
Heaviest fall, ·54 in., on 20th.
Rain fell on 23 days.
Above average, 1·83 in.
Maximum Temperature, 68°, on 23rd.
Minimum Temperature, 32°, on 13th.
Minimum on Grass, 26°, on 13th.
Frosty Night, 1.
Sunshine, 170 hrs.
Brightest day, 23rd, 13 hours.
Sunless Days, 6.
Below average, 85·2 hours.
Mean Maximum, 56.°
Mean Minimum 43·5°.
Mean Temperature, 49·7°.
Below average, 2·6°.
Maximum Barometer, 30·45°, on 7th.
Minimum Barometer, 29·18°, on 12th.

L. B. BIRKETT.

Echoes from the Hives.

South Sussex, May 31.—Unless the weather speedily changes, bee prospects are about as bad as they can be. To-night we have had mingled hail, snow, and rain; and it is so cold that frost is apprehended. This would do untold harm to agriculture.

The may trees, trifolium, and the little yellow clover are in full bloom, and the clovers are fast being mown and eaten off; but the bees can bring in little honey. So far, out of fourteen stocks, only in a Wells' hive can they be fairly said to have occupied the supers. On every approach to a warm day they *try* to go up, but are soon driven back by a chill in the weather. Hundreds and thousands must perish out foraging in the cold spells, the wet, and the bitter winds. Some erstwhile populous stocks seem quite depleted. It is tantalising to see the magnificent bee forage, and to know that day by day it is disappearing, and the bees can take little or no advantage of it.

If warmth should promptly set in, things might mend; but valuable time is being lost, and the stocks are seriously weakened and disheartened. The honey harvest time is, in any case, being sadly curtailed, here in the South, where our season is at the best so short.

Later.—South Sussex, June 6.—I add a line to last week's "Echo" (evidently received too late for insertion on 2nd inst.) to say:—

The season here being so abnormally late, it can hardly but be a short one this year. Those bee-keepers who have kept on the feeder up to the last moment will be best off; for now that the cold rains and winds seem to be over, the bees are increasing so fast that the foragers can hardly bring in stores sufficient for the growing population. The result is curious. Many stocks are not strong enough to take possession of the supers, the nights are yet too cold, and, more especially, they have no suplus honey to take up. Some stocks I have examined have hardly any honey in the brood-nests, which yet are overflowing with bees and brood. In consequence, they are swarming in all directions; in fact, the swarms are almost "hunger" swarms. But a few hot days and, above all, nights, will, let us hope, speedily improve the honey outlook.—W. R. N., *Sussex, June* 6.

Stevenage, Mid-Herts, June 2.—I send a few lines to let you know how my bees are doing in this district (Mid-Herts). Last autumn I had ten hives, five strong and five rather weak. The weak lots each had a lot of driven bees joined to them, and were wintered on half natural stores and half syrup; the others had an abundance of natural stores. At date of writing the weak lots are still weak and the strong ones very strong, and are all busy in supers containing shallow frames. At present it is very showery and much rain has fallen; but given fine weather in the near future, everything points to an abundant honey harvest. Foul brood is unknown in this district.—H. M.

Bee Shows to Come.

June 20 to 24, at Birmingham.—Royal Agricultural Society's Show. Letters relating to Bee Department to be addressed, E. H. Young, Secretary, B.B.K.A., 12, Hanover-square, London, W.

July 1, at St. Neots.—Hunts B.K.A. Bee and Honey Show in connection with the Agricultural Society's Show. **Open Class** for single 1-lb. jar extracted honey. Schedules and all particulars from C. N. White, St. Neots, Hunts.

July 6 and 7 at Hanley, Staffs.—Horticultural Fête. Medals and liberal prizes for honey. Schedules now ready. Apply J. B. Barrow, Town Hall, Hanley.

July 14 and 15, at Lincoln.—In connection with the Lincs. Agricultural Society. Schedules for the Bee Department from R. Godson, Hon. Sec. Lincs. B.K.A., Tothill, Alford, to whom all entries in this department must be made **on or before June 17.**

July 19, at Wellington (Salop). Wellington and District B.K.A. First annual show of honey, bees, and appliances in connection with the Wellington Horticultural Society's Show. Seven open classes. Entry forms, &c., from R. Holland, Hon. Sec., Haygate-road, Wellington, Salop. **Entries close July 5.**

July 20, 21, 22, at Roundhay, Leeds.—Yorkshire Agricultural Society's Show. Liberal prizes for hives, honey, &c. Schedules from Marshall Stevenson, Secretary, York. **Entries close June 11.**

July 30.—In connection with Helsby (Cheshire) Flower Show, three open classes and single jar competition. Schedules from Dr. Briant, secretary, Helsby, Warrington. **Entries close July 23.**

August 10, at Clutton, Bristol.—Somerset and South Glos. B.K.A. Annual Show in connection with Clutton Horticultural Society. Six open classes

Schedules from Miss H. Dawe, Long Ashton, near Bristol.

August 13, at Dumfries.—In connection with "Band Contest," the South of Scotland B.K.A. will hold a honey show as above. **Two open classes for "Three's."** Schedules from Mr. J. Kerr, Hon. Sec., Douglas-terrace, Dumfries. **Entries close August 6.**

August 17 and 18 at Dover.—In connection with the Dover Horticultural Society at Dover College Grounds. Additional open classes. Increased prizes and medals. Schedules from H. W. Brice, Hon. Sec. Kent and Sussex B.K.A., Dale Park, Upper Norwood, S.E.

August 17 and 18, at Blackpool.—Honey show in connection with the Blackpool and Fylde Horticultural Society, under the auspices of the L. & C. B.K.A. Schedules from C. E. Riding, Secretary, 9, Central Beach, Blackpool. **Entries close August 8.**

August 17 and 18, at Ince Hall, near Chester.—Open classes for six 1-lb. jars, three 1-lb. granulated, and single 1-lb. jar. Schedules from the flower show secretary, Ince, near Chester.

August 27, at Windsor.—Windsor and District Branch, Berks B.K.A. Bee and Honey Exhibition, in connection with the Liberal Club Annual Flower Show. Schedules from J. Hyde, jun., Hon. Sec., 55, Bexley-street, Clewer. **Entries close August 18.**

September 7 and 8. At the Cattle Market Derby.—Derbyshire B.K.A. Seventeenth Annual Exhibition of Bees, Honey, and Appliances, in conjunction with the Show of the Derbyshire Agricultural Society. Liberal prizes. **Eight open classes.** Schedules from F. Walker, Hon. Sec, D.B.K.A., 64, Gerard-street, Derby. **Entries close August 31.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column

T. C. (Louth.) *Making Roofs Rain-proof.*—1. The most effective way of ensuring that home-made roofs "constructed from grocery boxes" are water-tight, is to cover them with thin sheet-zinc; the metal being cut large enough to allow of the edges being turned well in on the under-side of wood—all round. 2. It is, however, more than equally important that roofs be made bee-proof as well as rain-proof, otherwise trouble will be constantly arising.

CAMBS.—1. There is foul-brood in comb received, but the disease is not in an advanced stage. As the bees are "extra strong" and work well, we advise getting them off the diseased combs and treating them as a swarm. The combs and frames on which the bees now are should be burnt. 2. Calvert's No. 1 carbolic is quite unfit for medicating bee food with. No wonder the bees refuse to take it. We cannot understand any chemist saying: "Calvert's No. 1 Carbolic is soluble phenyle," because it is not. 3. There is every probability of your surmise being correct as to robbing a diseased stock last autumn being the cause of infection. 4. So far from "stocks, if kept strong, not having much to fear from foul brood," the very fact of their being strong often impels the bees to rob weak, diseased lots, and so carry the infection into their otherwise healthy homes. 5. Yes, as advised in answer to No. 1 above. 6. The bees must be got into a temporary box or old skep and kept indoors while hive is being washed and prepared for them to return to it. See reply to 2039, p. 217, last week. 7. Remove and destroy all combs and brood. 8. Yes. 9. Do not mind re-queening just now.

ELECTRO - HORO (Spennymoor). — *Swarm-catchers—Experts' Certificates.*—1. We do not know what particular "swarm-catcher" our correspondent refers to as "mentioned in B.J. about three months ago." Please give page on which it occurs. 2. Full particulars as to membership of B.B.K.A. and of the exams. for experts' certificates may be had from Mr. E. H. Young, Secretary, B.B.K.A., 12, Hanover-square, London, W. 3. We do not know the address of Secretary, Hartlepools B.K.A.

A. C. (Bourton - on - the - Water).—Though comb is only newly built and brood in cells are the "first hatch" bred therein, the stock from which it was taken is decidedly affected with foul brood. We are, therefore, very pleased to learn that you have already "destroyed the combs, frames, and quilts" by burning. It is, of course, possible that the other two affected colonies may require equally drastic treatment; but if not very badly diseased, we should take advantage of the present fine weather and get bees off their combs, and treat as recommended in reply to Query No. 2039, p. 217.

A. B. S. (Lanarkshire.) *Suspected Foul Brood.*—Examination of comb sent shows your friend's hive to be affected with foul brood of a very bad type and should be burnt out of sight.

G. R. T. (Glos.).—*Immature Bees Cast Out.*—*Preserving Queens.*—1. The adverse weather during the month of May was undoubtedly the cause of the larvæ being thrown out. 2. The queen could not be preserved as proposed for reuniting to a divided stock so long afterwards. 3. The *best* time to make an artificial swarm is when bees are swarming naturally, see reply to E. H. S., p. 227.

*** *Several communications are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words, Sixpence; for every additional Three words or under, One Penny.

GOOD SWARMS of BEES FOR SALE, 10s. 6d. each packed. F. GAY, Cranbourne, Salisbury. V 43

STRONG HEALTHY SWARMS for postal order, 12s. 6d. Mrs. MAY, Parwich Hall, Ashbourne. V 42

NATURAL SWARMS or Prepared ones, June, 12s. 6d. Rev. JARVIS, Coleford, Glos.

FOR SALE, WELL'S HIVE. Good as new. Cheap. Moss, Station Master, Ravenstonedale. V 78

SWARM in new "Standard" hive, painted, 25s. 6d. F. MUNTON, 23, Caxton-road, London.

TWO SURPLUS HEALTHY '97 QUEENS for disposal, 2s. each. GEO. LEDGER, Weybridge.

STRONG, Healthy SWARMS, headed by prolific queens, 10s. 6d. each. Orders filled in rotation. LEMIN, 294, Hoe-street, Walthamstow. V 79

WANTED Cowan Rapid Extractor or another. Good condition. Cheap. TOWNSEND, Lydbrook, Glo'stershire. V 47

Prepaid Advertisements (*Continued*).

SWARMS from 12s. 6d. Package returnable. Queens from 3s. 6d. E. WOODHAM, Clavering, Newport, Essex. V 80

WANTED, NATURAL SWARM of HEALTHY BEES, English, within twenty miles of London. HODGSON, Copt Hall, Mill Hill, Middlesex. V 85

BEES. STRONG JUNE SWARMS. Pure Wiltshire. 10s. 6d. each cash on rail. GILES, Cowsfield Apiary, Salisbury. V 84

QUEENS, Stocks, Nuclei, and Swarms. Queen raising a speciality. Eleventh season. Address, Rev. C. BRERETON, Pulborough, Sussex.

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. Neat Patterns. W. WOODLEY, Beedon, Newbury.

PRIME Natural Early June SWARMS of my selected strain of English Bees, all 1897 queens, carefully packed and put on rail at 12s. 6d., larger 15s. (Telegrams Chieveley free.) W. WOODLEY, Beedon, Newbury.

NATURAL SWARMS of my well-known strain 3½ to 4 lbs., at 12s. 6d. each, larger, 15s., headed by 1897 Queens. Address, WHITING, Valley Apiaries, Hundon, Clare, Suffolk. V 81

NEW HONEY WANTED. Clean, well filled Sections (from fruit blossoms). State quantity and price for cash, FELL, Bee-keeper, Finsthwaite, Newby Bridge, Ulverston. V 82

QUEENS, 5s. each, post free; SWARMS, 3 lb. weight, 10s. 6d.; package included; from an apiary certified healthy by two first-class experts. SALMON, Hardwicke, Gloucester. V 83

FOR SALE, BEE HIVES. Cowan's and other designs. Joiner made, and well painted. Can be seen by appointment. Or useful exchange. D. WATSON, 13, Wharfedale-place, Leeds. V 77

STRAW SKEPS. Any designs. Bound with cane. Send 2s. P. O. for sample to JAMES STEPHENSON & SON, Straw Skep Manufacturers (Late of Pickering), No. 155, Picton-street, Manningham, Bradford, Yorkshire. Note, trade supplied. V 76

22ND YEAR. Good Healthy Natural Swarms with '97 prolific queens. My well known strain, 10s. 6d., 12s. 6d., and 15s., on rail, '97 fertile queens 5s., '98 fertile queens 3s. 9d. both delivered. ALSFORD, Expert, Blandford.

BEES and HONEY. — SPEARMAN, Colesbourne, Andoversford, can supply the very best Cotswold Clover Honey for this season, extracted 57s. cwt., sections 9ls. gross on rail: also good Healthy Swarms Bees, 8s. 6d. to 10s 6d. Boxes returned. Everything guaranteed. Approval, "deposit." V 71

BRICE'S RELIABLE QUEENS. Well-known strain, one quality, one price. Mated tested Queen, 5s. 6d.; Virgins, 3s. each. Post free in my perfected travelling and introducing cage. Quality and safe arrival guaranteed. HENRY W. BRICE, Dale Park-road, Upper Norwood.

W. P. MEADOWS, SYSTON, NR. LEICESTER.

APPLIANCES FOR BEES OUR NOTED **HIVES, EXTRACTORS,** &c., &c.,

Send for **CAT-A-LOG.**

DON'T GET STUNG,

when by using **APIFUGE** you can easily prevent it.

APIFUGE will also be found extremely useful for travellers in foreign countries where insect pests abound. Bottles **1/-** post free.

S. E. CRIMSHAW, Beeston Hill, LEEDS.

A. H. YOUNG,

The Expert Southport Apiarist,

FOR

Bee Hives, Appliances, & Comb Foundation.

Best Brood Foundation, 7 sheets to the lb., 1 lb. 2s. post free, 2s. 4d. Best Super Foundation, 13 to 14 sheets to lb., 1 lb. 2s. 9d., post free, 3s. 1d. Fine Sections, 50, post free, 1s. 6d., 100, post free, 2s. 9d. Fine Screw-cap Honey Jars, 2s. dozen, 23s. 6d. per gross. 9, Sefton Street, Southport.

J. S. GREENHILL,

(27 years with Messrs. G. Neighbour & Son)

THE COTTAGER

SOLAR WAX EXTRACTOR.

Made of Tin with Glass Cover, **6/6** each.

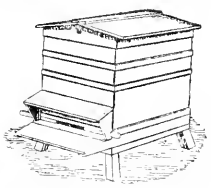
80, Graham Road, Wimbledon.

Illustrated Catalogue Post Free.

H. N. BAXTER,

Sedbergh,

Bees, Honey, and Appliances.



C. H. VARTY,

Etwall, near Derby,

Awarded Prizes during 1897 for Bee Hives and Collection of Appliances at Royal Show, Manchester, Nottingham, Chester, Burton, Shrewsbury, and Derby.

Hives complete from 10/6 each

New Illustrated Catalogue post free.

YORKSHIRE AGRICULTURAL SOCIETY.

GREAT ANNUAL SHOW

AT ROUNDHAY, LEEDS,

JULY 20th, 21st, and 22nd, 1898.

£2,750 IN PRIZES

Will be offered for CATTLE, SHEEP, PIGS, HORSES, JUMPING COMPETITIONS, SHOEING, BUTTER, CHEESE, BEE APPLIANCES, and HONEY.

Entries close on SATURDAY, JUNE 11th. Application for Prize Schedules and Forms of Entry to

MARSHALL STEPHENSON, Secretary.

York, May 21st, 1898.

Telegraphic Address: "YAS, YORK."

GLOUCESTER

is a very good Railway Centre for the West of England, so Bee-keepers living in this part of the country should try **E. J. BURTT,** who keeps a large and varied stock of **Bee Appliances** ready for prompt delivery.

EDWD. JNO. BURTT,

Bee Appliance Manufacturer, GLOUCESTER.

Illustrated Catalogue Free.

Editorial, Notices, &c.

KENT AND SUSSEX B.K.A.

The Council of the above Association met at Horsham on Saturday, the 4th inst. There was a good attendance, and matters of great interest to bee-keepers were discussed and decided. Several fresh local secretaries were appointed, and new members elected. The Honorary Secretary (Mr. H. W. Brice), reported that the Experts' Spring tours had resulted in the inspection, in Kent, of 196 apiaries of members, comprising 914 frame hives and 174 skeps, or 1,088 stocks in all, while in Sussex, 111 apiaries of members were examined, including 391 frame-hives and 53 skeps, or 444 stocks in all. Thus in the two counties 1,532 stocks were overhauled, of which he was sorry to report a certain percentage were diseased. The bees examined being those of members only, these figures represent but a very small proportion of the mischief which is so seriously retarding the progress of bee-keeping, in spite of the fact that a good number of diseased stocks have been destroyed; and looking to the great benefit that has accrued to members of the Association by the Spring inspection, the Council were unanimous in the opinion that an Autumn inspection should succeed, in order to further help bee-keepers in both counties. It is evident from the report of the Association's work in the two counties that bee-keeping has been greatly aided. After making further progress with the arrangements for the forthcoming annual honey show at Dover in August next, and the transaction of some formal business, the meeting closed in the usual way.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

BEE-KEEPING.

HOW TO ACHIEVE SUCCESS.

(*Continued from page* 163.)

[3292.] *Removing Supers.*—One of the prime elements in successful bee-keeping is the weather. A good growth of bee forage is no doubt a primary element of the first importance; but it is quite certain that bee-flowers will but "waste their sweetness on the desert air" if the weather is not favourable for honey gathering.

It is disappointing, no doubt, that this is so, and the disappointment falls especially hard upon beginners. Older members of the craft have experienced bad seasons before, and when an adverse time for the bees comes they count it in along with the others, which go to make up the average, which is the only safe guide to rely upon. We are even now in the midst of a very trying time, but it in no way follows that the present season will ultimately be a failure. Springs and early summers of bygone days have been very similar to this of '98, and have yet worked out into very good honey seasons before the close of the bee-year. Who can say that this will not do the same? Supers are in the main on all strong stocks, and bee-keepers so far have done their portion of the needed work in securing the harvest, and we may safely leave the bees to do their share should the chance come. No great skill is required to put a super on a hive, nor to add thereto, as occasion requires; nothing beyond a little ordinary care in placing surplus-chambers on properly, and see that they are warmly packed round and fit closely at the junction. But totally different conditions face us when we come to remove the hard-earned results of the bees' labours. At this time many things have to be guarded against, amongst which are risks of so upsetting the bees through mismanagement, and disorganising the whole apiary as to start "robbing" all round. In a word, unless proper care is exercised there is no operation so likely to cause trouble in an apiary as the removal of surplus honey. This is especially noticeable in a precarious season, like the present one. Regarding the best time for removal of supers, I prefer the early morning, as, after the coolness of the previous night, bees are more amenable to handling than later on in the day. I also advise using no more smoke than is absolutely necessary in operating. The super-clearer is a helpful appliance, when properly used and made to work right; but it requires watching to see that the springs do not become fixed by bees endeavouring to return to the super by the escape. It is a good appliance, but, in my opinion, is not quite perfect yet. The first necessity is to detach the super from the body-box by means of a small screw-driver inserted at the junction of the two, taking care to guard against disturbing the frames in the lower hive, for nothing enrages bees more than a sudden jar, caused by partly lifting a frame of brood along with those in the super (to which it is attached by brace-combs), and then, as it is suddenly wrenched off the bottom of super, letting the frame fall back into its place with a bang! Having raised the super high enough to sever the attachments, insert small wedges at each of the four corners, causing an opening all round, not sufficiently wide to allow the bees to get out. Having got thus far, and with your super-clearer at hand, puff a little smoke into the opening and then, with a screwing motion, raise the super, and place it direct on to the clearer; and then lift the whole on to

the hive again. The whole operation takes but a moment or two, and, if deftly performed, causes little or no disturbance at all. If you have some one to lend a helping hand, all that is necessary is to lift up the super whilst your assistant places the super-clearer on the hive, lower the super down, and the thing is done; the bees will speedily descend into the hive, and no upset be caused.

If it is desired to remove the super at once to a distance, have an empty super ready to take the place of the full one, or, if the honey-flow has ceased, a quilt should take the place of the removed super. The precautions necessary here are to see that the filled super is removed right away indoors to a safe place. The hive under treatment is then packed down carefully, so that all chance of robbing by returning bees and others is strenuously guarded against. Nothing I know of is so disappointing as, after lifting off a good super of honey as a result of hard work to both bee-keeper and his bees, to have its contents carried off by robber bees, just for the want of a little thoughtfulness. But this has occurred frequently with novices. Therefore, never leave hives or surplus-chambers uncovered when removing surplus, as robbing is almost sure to be started if there is neglect in this particular. Do the work speedily and neatly, and for this purpose it is necessary to have everything ready to hand that is likely to be required and not to have to hunt up some necessary appliance when in the middle of an important operation. In removing supers to sheds, outhouses, or rooms, for the purpose of their being cleared of bees, it is advisable to darken the same by covering up windows, leaving only a small outlet for the bees in the walls or windows, through which the light may shine to show bees the way out. Be sure in removing supers that the queen is not in them when carried away; this precaution is, however, only necessary where excluder zinc is not used. — H. W. Brice, *Dale Park, Upper Norwood.*

APICULTURAL NOTES.

EFFECTS OF RECENT COLD WEATHER. UNITING BEES.

[3293.] The weather here for several weeks has for the most part been dull, cold, and wet: quite unfavourable for honey-gathering. Just a few warm spells, however, during the time has enabled the bees to gather enough honey to keep them going without the feed-bottle, and constant breeding has been kept up. The result is that brood-chambers at the present time are in splendid condition. The outside combs contain pollen and unsealed honey, and the rest almost to a cell are occupied with eggs and brood. A good number of our stocks have been supered, and a couple of warm days last week induced the bees in many of them to take possession of surplus chambers. The result is that sheets of new foundation were rapidly drawn out into combs. But the prevailing cold of the last few days has stopped super work for the time. As I write (June 13) a cold north wind is blowing, and with no sun for two or three days past the bees are almost quiet enough for midwinter. Nevertheless, population of every hive is rapidly increasing. I have had no swarms yet and only heard of two in the neighbourhood, but should a sudden change come to hot weather, there will be some "hot work" with swarming, unless effectual methods of prevention be adopted.

The present weather is very similar to that of twelve months ago, which lasted up to June 20, but my bees did splendid work later, before the season ended. I mention this to show that it is not too late yet to hope for a good honey season. There is, however, no getting away from the fact that valuable time is now being lost, every day being of importance. I have just seen three large fields of white clover in full flower, all quite close to my Brampton apiary, and I am told that there are several more fields only a short distance therefrom. I never saw the clover plant looking better or more plentiful than this year. The fields have the appearance of a white sheet. In fact, crops of all kinds are unusually heavy. But everything now wants warmth. If the sun would but shine and the wind change to a warmer quarter, thousands of well-filled sections of clover-honey would, in a few days, become an accomplished fact. The colonies in my home apiaries are at the present time in better condition than those of my out apiary, a state of things which very rarely exists. The latter being surrounded with sainfoin, the *second crop* of which is generally of more service to the bee-keeper than the first. The first crop is cut just as it comes into flower, but the second crop is left for seed, and yields abundance of honey in favourable weather. The whole of my home stocks will, I believe, be ready for super work by the time warm weather sets in. But should I find any be lagging behind they will be made strong, either by uniting or by some other means.

Uniting Bees.—My method of uniting is very simple and reliable, though somewhat different from the plan usually advocated. Having got the two stocks together for uniting, I puff in just sufficient smoke to prevent the bees taking wing. I then withdraw the dummy from No. 1, and lift the frames from No. 2 *en bloc*, if possible; but if there are too many to admit of that, I take three at a time and place them close by the side of the comb in No. 1. If I have a preference for either queen I kill the other, if not I let the queens settle it, but I never cage the queen nor sprinkle the bees with flower. Nor do I trouble to alternate the comb of the united lots, but just place them side by side in the manner I have described—in the quickest possible manner. The whole operation need not take more than

a few minutes. I have followed the system for the last ten or twelve years and have never lost a queen, or seen the slightest signs of disagreement or fighting amongst the united bees. I always operate in the evening.—ALLEN SHARP, *Brampton, Huntingdon.*

CARRYING DRIVEN BEES IN BAGS.

[3294.] The letter of your correspondent, Mr. Bellairs (3279, p. 212), in your issue of June 2, emphasises the saying that "there is nothing new under the sun." There is certainly nothing new about Mr. Bellairs' method of carrying driven bees in bags. Having said this much, I may disclaim at once any desire to detract from the value of an idea which is evidently not based upon any preconception of the method advocated. The idea of carrying driven bees in bags is good, but it seems to me that your correspondent's plan of working it out is defective, and I think the following description of the bag I use will commend itself to your readers as that of a much more practical and serviceable article. The idea is not mine, it was given to me more than ten years ago by Mr. C. W. Summerskill, at that time expert to the Warwickshire B.K.A., and I know he had used such bags for years before then.

The fabric of the bag is what is known as "Hurding," or "Hurden"—that used by upholsterers in packing furniture, carpets, &c., answers admirably; it is very strong and porous. For such bag, a piece 20 in. deep and 28 in. wide will be required; this should be turned in once top and bottom and strongly hemmed, and the two ends should be strongly sewn together. The next requirement will be a piece of stout perforated zinc, the perforations being as large as possible short of a bee being able to crawl through.

A ring, 5½ in. in diameter, of stout steel wire is sewn with string to one side of the zinc (the side that will be inside the bag when finished), and one end of the bag is sewn firmly round the edge of the zinc with an overlap on the top of about an inch.

A piece of tape, 2 ft. long, sewn in the middle on to the bag, 3 in. from the bottom, and a piece of strong string passed through the perforations of the zinc outside the ring of wire, tied tightly across the top with sufficient left to form a loop above the knot, completes the whole thing.

The materials are so durable that they will last for many years—those I made ten years ago are as good as ever, and they have had plenty of wear.

Art muslin seems an unsuitable material in many ways. It is easily torn by thorns, &c., and a torn bee-bag with bees in it is—well! Also it is liable to sag, or even tear, with the weight of the bees upon it, whereas the stiffer material can not.

I have carried eight of these bags, each containing two driven lots, on a rod lashed to the handle of my bicycle, several miles without any inconvenience to myself or the bees.

The method of using them is extremely simple. The bees are driven into a skep, or bumped in the usual way; an iron bucket is rinsed out with water and the water drained from it (this facilitates the "flow" of the bees from it into the bag). The skep, bottom up, should then be smartly struck on the sides with both hands, turning it round while doing so to dislodge the bees from the sides, and the whole thrown into the bucket. If properly done not a bee will be lost.

Take a bag, turn it bottom up, put the bucket between the knees, placing the edge of it inside the bag, which may be kept open with the fingers of each hand, pour out the bees into the bag—every bee will go in. A smart shake will keep them down while the bag is tied with the tape, and it may then be turned right side up and hung in a tree in the shade.

If it is desired to add another lot of bees to those already in the bag, it is only necessary to turn the bag gently upside down, untie the tape, shake the bees to the bottom, and pour out the second lot from the bucket. Shake and tie as before.

I do not advise putting more than two good lots in one bag. The bees are, of course, gorged with honey, and the excessive heat from too much overcrowding will sometimes make them disgorge their honey, the consequence being that many fall to the bottom, and are thus suffocated.

The bees may be hived either by shaking them out in front and allowing them to run in, or (and this is the plan I prefer) the dummy may be drawn back so as to leave a sufficient space between it and the back comb, and the bees shaken out a small lot at a time between the two. The quill end of a stout feather should be kept moving amongst the bees to prevent them from clustering too closely, and they will soon run in between the combs, when the dummy may be placed in its proper position.

I trust I have made clear to your readers my description of this extremely useful contrivance; if not I shall be glad to answer any questions if you think the matter of sufficient interest to occupy a space in the JOURNAL.

Your able correspondent, Mr. W. B. Webster, to whom I showed the bags some years ago, expressed himself exceedingly well pleased with them, and I afterwards sent him one as a pattern. His fertile brain may have suggested to him some improvement on my pattern; if so, will he give us the benefit of it?—JAMES SIMKINS, *Solihull, June* 11.

HONEY OF 1898.

[3295.] In B.J. this week I notice the question asked (3,290, p. 225), if you had heard of any surplus honey having been taken this year? In this connection, therefore, the following

may be of interest:—Last autumn I drove four stocks for neighbours, and having no standard frames ready at the time, I put the bees (two lots in each) into standard hives, fitted with ten shallow-frames filled with half sheets of foundation. I put on each hive a rapid feeder, holding about 5 lb. of syrup, and re-filled them three or four times. After the feeding-up was completed, I removed the feeders and put quilts on for winter. The hives were not again disturbed until the end of February last, when I placed over feed holes in quilt a wooden box holding 3 lb. of soft candy. I took no more notice until on May 6 I observed that the bees of one hive appeared to be very strong. I raised the quilts, thinking to remove the empty candy box, but on lifting it up I found the box quite full of bees and honey, the latter being capped over and looking most tempting. I took it off, and it weighed a little over 2 lb. I need not tell you that very little of that honey was left after the rising generation of bee-keepers around our breakfast table had got their spoons into it!

As I still class myself amongst the amateur bee-keepers, I should be very glad of your opinion on my proposed future proceedings with this stock, and also on the method I purpose adopting with the other stock. The following week I transferred those ten shallow frames (four of which had comb under bottom bars full of drone brood, which I cut off) to a shallow-frame super placed on top of a standard hive fitted with ten frames full of empty combs; and that the stock now works —"as busy as bees" does not half express the way they do it. As to the other hive, on examination a week ago I found the bees only covered eight of the shallow-frames, and no comb was built below the bottom bars. I therefore intend transferring these to a shallow-frame super, placed on top of a "W. B. C." body-box containing ten frames fitted with full sheets of foundation; then, when I find the queen below, place on a sheet of excluder zinc and remove the quilts a short time some fine day when drones are flying, and liberate them to fresh fields and pastures new.—H. S., *Maesybont.*

[Your plan will do very well.—Eds.]

OUR WILD BEES.

EUCERA, OSMIA, AND STELIS.

(*Continued from page* 214.)

[3296.] Amongst the large shells in my bowl are some smaller ones, also gathered from the cliffs at Kingsdown. When collecting these latter in the winter I was inquisitive enough to crush one or two of them in order to see what they contained, and the result was several small, white, fully-fed larvæ—not perfected bees as in the case of *O. aurulenta* in the larger shells. I think it very probable that these larvæ will turn out to be those of *Osmia spinulosa*, and if this is so, their not having got further than the larvæ stage, when overtaken by the rigors of winter, is quite what one would expect, for *O. spinulosa* does not fly until June or July, whereas *O aurulenta* comes out in May. There is nothing very striking about the appearance of *Osmia spinulosa*. It is much smaller than *O. aurulenta* and *rufa*. The ground colour is black, and it is clothed with short, brown pubescence. The abdomen is bare, with medially interrupted apical bands of white pubescence. As its name indicates, the male has a strong spine in the centre of the first ventral segment of the abdomen. The female has the pollen brush (on the underside of the abdomen), &c., orange-red. Length 7 to 8 mm.

My treasures in the bowl have, I hope, by no means ended here. Alongside the snail-shells, and taken from the same locality, are some bramble-sticks, each with a small hole at one end. From these I am in hopes of securing a rare species of *Osmia—O leucomelana*. The habit of this bee is to scoop out a nest for its young in the central pith of a dead bramble stem, choosing, by preference, one that has been cut off sharply at the extremity. It is not easy to think of a warmer cradle for the bee-larva, outside human abodes, than the centre of this soft pith, where it is kept dry and free from molestation by the hard and prickly outer tube of the bramble. But, alas, even in this snug spot molestation is possible, and, in fact, often occurs; moreover it is of a nature that may be very detrimental to the worldly prospects of the young *leucomelanas*. The fact is this cosy nest has often to be shared with the young of the closely-allied inquiline bee *Stelis octo-maculata*. *O. leucomelana* is rare, but *S. octo-maculata* is rarer, and the presence of an example of the latter in my bowl one fine morning in July would bring a joy certainly not expected.

Osmia leucomelana is very like *O. spinulosa*, but the male has a large *blunt* spine on the *second* ventral segment, and the female has the scopa greyish white, not red.

Another species, *Osmia cærulescens*, is common in many places just now. The male is bronzy, often with a greenish reflection; the female is blue black, the abdomen being deep metallic blue, hence the name; both sexes are sparingly clothed with pale hairs, which run into indistinct lateral bands on the abdomen.

Stelis aterrima, the least rare of the three British exponents of this restricted genus, is supposed to associate with the last-named *Osmia*. It is black (see generic characters, p. 96) and deeply punctured. Head and thorax sparingly clothed with short pale hairs, scutellum with a tooth on either side, abdomen with the apical margins of the segments pale, apex of abdomen simple and rounded, ♀ without a pollen brush, wings slightly dusky. Length 8-9 mm. This is not a common insect, but last year I took it fairly freely on garden-mint in the kitchen-garden about July 1.—F. W. L Sladen, *Ringwould, near Dover.*

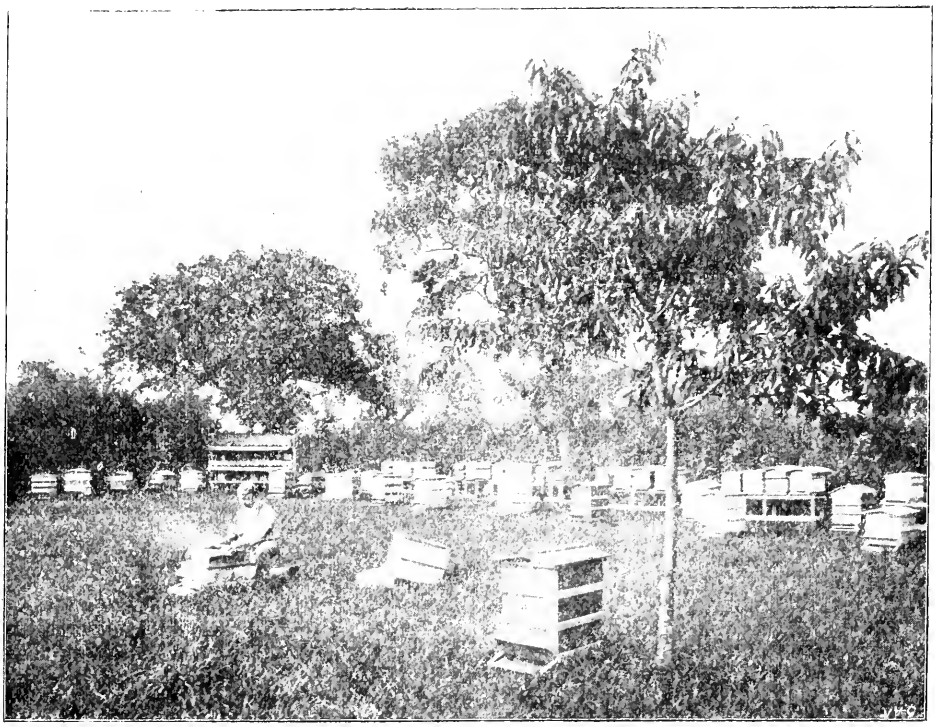
(*To be continued.*)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Our bee-garden picture this week is reproduced from a large photo of Mr. Arthur A. Cole's fine apiary at Oaksey, Wilts. It was not very easy to show the place to full advantage on a tone-block so small as our limited space allows, but by omitting a few hives a fair representation is given of the original.

Mr. Cole, who is an old reader of the B.B.J., and though still comparatively young, has kept bees for over twenty years. In fact, we may here say that it was to him that our reference was made in "Useful Hints" on page 371 of B.J. of September 23 last year. We there gave a few particulars of his bee-keeping and the picture of his bee-garden then promised now appears.



MR. ARTHUR A. COLE'S APIARY, OAKSEY, WILTS.

In response to our usual request for a few of bee experiences to go along with the view here shown, Mr. Cole writes to say: "I first began to take an interest in bees many years ago, when a younger brother of mine had a swarm given to him, and I assisted in the management of them. That, however, was in the darker days of bee-keeping, when bees were usually condemned to the sulphur-pit at 'honey taking' time each autumn. But in the spring of 1876 I made up my mind to go in for bee-keeping on modern methods, not so much for profit as to study the habits of the bee, and, having a good microscope, I have found them especially interesting. I bought two of Neighbour's well-known cottage hives, with windows at sides, and bell-glasses for surplus chambers. One of these was sent me stocked with a swarm of English bees with an Italian queen; in the other one I hived an English swarm, and although it is twenty-two years ago I have not changed my stock since, but can still see traces of the Italian blood in the hives, many of the young bees showing yellow bands.

For ten years I only kept a few stocks in a back garden attached to my house, but in 1886 my brother already mentioned, who had been managing a farm in Wilts for my father, went out to India coffee-planting, leaving about ten stocks of bees behind, which I took charge of. My brother carried a couple of stocks to India with him, but did not find them a success there, though he kept them for about two years. The year 1887 being a good one for honey, I made my first and only appearance as an exhibitor at the G.B.K.A. show at Cheltenham, and with my four entries was successful in taking four prizes, including the two B.B.K.A. medals, being first for

twenty-four 1 lb. sections, and first for twenty-four 1 lb. jars. I also took a second and third prize.

"Four years ago we let the farm, but the tenant kindly allowed me to rail off a part of the cherry orchard where the hives now stand, as seen in the photo, with myself in the foreground.

"The question has often been asked in the B.B.J., 'Do bees pay?' I should say yes, and very well, if properly managed; besides being a most fascinating hobby. At all events, mine pay me, although I keep them at a disadvantage, living over six miles away, and not having time to visit them more than once a week. Some bee-keepers I know complain that there is little sale for honey, but can we wonder at this on seeing the wretched sections sometimes offered for sale in grocers' windows? I maintain that it is the bee-keeper's own fault, for after selling such sections it is no wonder if a second lot is not bought. I have never had trouble in getting rid of mine, but I make a rule of putting up for market only what I call best sections, any badly-filled or even soiled ones being invariably broken up, and the honey run off. One grocer took over thirty dozen sections from me last season, and gave me a good price for them. He says he 'could buy cheaper, but cannot get them clean and well filled like mine, and so prefers giving me my price.' If other bee-keepers followed my plan, I feel quite sure they would soon find there would be a demand for their honey, so long, of course, as the quality is good.

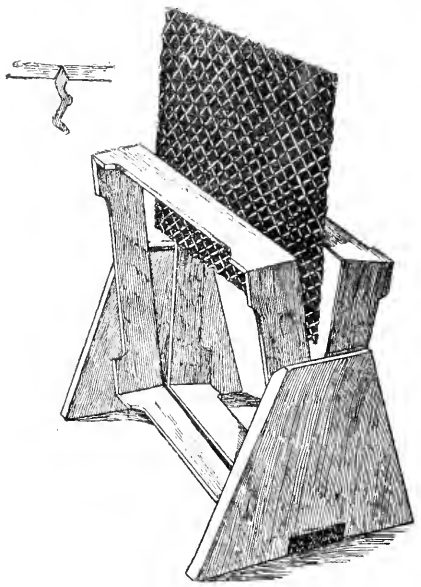
"It has struck me as rather a strange coincidence that the two 'Jubilee years' of 1887 and 1897 should have been 'record years' for me, for both quantity and quality of honey taken; and I have wondered if other bee-keepers have found it the same. I last year secured rather over three-quarters of a ton of surplus. In conclusion, I should like to bear witness to the usefulness of the BRITISH BEE JOURNAL to all bee-keepers; I have now taken it in for many years, and gathered therefrom much valuable information."

It is always pleasing to have the recorded experience of readers like Mr. Cole, which so well proves that bee-keeping—when intelligently carried out—is both pleasurable and profitable to its votaries. It is, moreover, especially gratifying to ourselves to have his testimony that reading the B.B.J. "for many years" has in some measure contributed to this result.

NOVELTIES FOR 1898.

SLADEN'S V-SLIT SECTION.

Regarding this novelty for 1898, Mr. Sladen says: "The want of a mode of fixing foundation into sections which, while being thoroughly satisfactory in its results, can be easily and quickly done without any special pre-attained skill or complicated and messy apparatus, has long been a crying need amongst bee-keepers. I claim that my improved section meets this want in a better way than any other section yet introduced. This section has a slit down three of the sides, while the fourth or bottom side is entire. It is folded in the usual way, and then placed in the guide-block shown in the figure, in which it fits closely. With the thumb and forefinger the slit is opened wide, and then with the other hand a sheet of super foundation, previously cut to the required size, is dropped into the gaping mouth thus formed, the bottom edge of the foundation resting in a groove made for its reception on the inner side of the bottom bar; finally, the two halves of the section are brought together firmly on the foundation, the result being that the latter is held securely between them in vermin-trap style, not only at the top, but also on either side; so that a break-down, when the sections are wedged



into the rack, is practically impossible. The slit in which the edges of the foundation are held widens towards the inside (see the small cut to the left), which has the effect of rendering it scarcely visible when the foundation is fixed, and this wedge or V-shaped slit has also the advantage of holding the foundation much more securely than an ordinary plain cut would do. Exceedingly good work can be done with these sections when the temperature is high enough to render the wax fairly plastic and tenacious, as at mid-day in warm, summer weather, and it is astonishing how rapidly they can be turned out after one has got into the 'swing' of doing them. Of course, one of the chief advantages of a section like this is the fact that the foundation may be made to fill it entirely, like the parchment in a drum, which, with a minimum of labour to the bees, naturally results in a beautifully-finished comb and sealing. But, after much ex-

perimenting and labour (which covered a two years' trial of this section), I have found that unless honey is coming in fast and continuously, the bees are rather apt to nibble pop-holes through the corners and sides of the foundation, thus somewhat marring the effect of an otherwise perfect section of honey. When a long and slow flow of honey is on he prefers to use the split-top sections with starters only, for then the bees have plenty of time to form the mid-rib and draw out the cells at their leisure."

METEOROLOGICAL OBSERVATIONS TAKEN AT DUDDINGTON, STAMFORD, NORTHANTS, FOR THE WEEK ENDING JUNE 11, 1898.

1898.	Bar. in.	Tem. 9am deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in.
June 5....	29·84	56·1	71	44	27	56·6	—
,, 6	29·79	65·0	68	48	20	57·3	·07
,, 7....	29·95	60·0	70	48	22	58·2	—
,, 8....	30·03	61·0	73	46	27	58·6	—
,, 9....	30·14	63·0	68	52	16	59·4	—
,, 10....	30·10	55·9	65	52	13	58·0	—
,, 11....	30·15	61·5	68	47	21	56·8	—
Means	30·00	60·3	69·0	48·1	20·9	57·8	*0·07

* Total.

For the week ending June 4 the mean temperature, viz., 50·0, was 4·6 below, and the rainfall, viz., 0·70 in., was 0·16 above the means for the week.

Queries and Replies.

[2047.] *Swarms Going Back after Hiving—Weight of Swarms.*—So far my bees have come through the winter and early spring season very well, some of my stocks being just now particularly strong and vigorous. I have already had four swarms, the first coming off on May 7. One of these swarms, however, after being hived over night was found clustered outside in front of the hive next morning, and after remaining there for a time, the bees one by one seemed to fly away, and go I don't quite know where to, but from what I could see I think they must have gone back to the parent hive, though I could not be certain, not being sure which hive the swarm came from. 1. What do you think caused this? Was it the want of a queen, or could anything have been wrong with the hive? We can hardly suppose the latter was the case, as another swarm has been hived in it since and is now settled there all right. 2. Another point I should be glad of your opinion upon. One of my stocks has recently cast out of the hive a number of drone chrysalis and some adult drones. On examination of the hive I find a number of drones and drone-brood, and also a good strong lot of worker bees. What has caused this? 3. What is a fair average weight of a swarm? Two of mine weighed 4½ lb. each, and one 2½ lb.—S. H. *Ivybridge, June* 1.

REPLY.—1. We think there can be little doubt that some mishap has occurred to the queen when the swarm was being permanently hived; supposing, of course, that the bees were transferred into their permanent home from the hiving skep after sundown on the day the swarm issued. Had the bees been permanently hived at once after swarming, it would have been easy to "locate" the parent hive by the bees returning to it in good numbers after finding themselves queenless. On the other hand, if the queen had remained with the swarm for some hours in the "hiving skep" and then got killed when finally hiving the swarm in the evening, the bees would just cluster outside the hive till next morning and then return "home" so gradually as to be almost unnoticed until all had disappeared as stated. 2. The casting out of immature drone brood and in some cases of adult drones is simply one of the consequences of the adverse weather during the last week or two. 3. A swarm weighing 4½ lb. is what we should call a fair average natural swarm, 2½ lb. is below the average. Artificial swarms of course cannot well be averaged, and should be bought by weight. The seller then drives the proper quantity of bees or thereabouts. We have ourselves frequently had natural swarms from large colonies weighing as much as 8 lb. or 9 lb.

[2048.] *Transferring Bees from Skeps after Swarming.*—Kindly tell me, through your interesting B.B.J.: 1. How late in the season I may put a skep on a bar frame-hive so that the bees may occupy the latter and be right for next year? I have a skep which has both swarmed and cast, and yet is still strong in bees. This is the one I wish to transfer if possible. 2. One of my other hives has swarmed and cast, also sent out a second and third swarm. The third swarm had two or three queens with it; is this unusual? 3. The hive from which they came has also thrown out four more dead queens to-day. What does this mean?—F. HANSHAR, *Sussex, June* 12.

REPLY.—1. There will be no chance of bees transferring themselves this year from skep to frame-hive after having sent out a top swarm and two casts, because, under these conditions, all inducement for the bees to take possession of lower hive is gone, and they would simply occupy the skep as a home while travelling up and down through the lower hive without occupying it. 2. It is quite common for several young queens to accompany casts or after-swarms. 3. Nothing beyond all surplus queens being killed off by the one at the head of colony or the bees themselves.

[2049.] *Queen Excluders and Surplus Chambers.*—I have a very strong stock of bees and supered them on May 16 with frames of foundation, many of which were drawn

out. Owing to oversight, I unfortunately omitted to put on excluder zinc, and yesterday, June 5, being a warm and sunny day, I decided to overhaul the surplus-chamber, and then found that the queen had got up and laid drone eggs in lower part of super combs in some cells of which were already some drone larvæ. Would you kindly advise me whether I should leave all this drone brood as it is now and put another super on the top of this one for honey, or would it be better to clear the bees out and then put on excluder zinc over the brood nest proper? If I am to do the latter, what is the best method of procedure? I thought about putting on super clearer and then the excluder, but this would imprison the hatching drones.—A. E. S., *Leicester, June* 6.

REPLY.—Supposing that there are ten frames of worker comb in brood nest below, all available for egg laying, it would be very unwise at this season to give the queen access to surplus chambers. We should simply lift off the surplus chamber, and, after setting on the excluder, replace it; then—as we judge you not to be an experienced hand at such work—lift out the combs singly, and, after shaking off the bees, carry the frame indoors and cut out all the drone brood from each. This done, and frames replaced, make sure that the queen is in brood nest below, and cover all warmly down again, and bury the drone brood. On no account use the super-clearer as proposed.

[2050.] *Unaccountable Sounds in Hives.*—I often notice gurgling, guttural sounds proceed from the brood-chambers of my hives, very different to the "piping" notes of queens. By what class of bee are they made and of what are they indicative?—DON JUAN, *Compton Verney, June* 6.

REPLY.—The only unusual sounds we know of, beyond those mentioned above, made by bees, which bear any analogy to what can be called "gurgling or guttural," occur when a bee by accident or otherwise gets entangled or stuck fast under, say, the corner of a quilt or something that imprisons it for a time. We have then heard a sort of rather "guttural" grunt and at other times a long, deep-toned squeak which might be called "gurgling," but whether produced by the wings or otherwise it is difficult to say. Possibly a drone would produce a deeper tone than the worker, but the sounds we have referred to came from the worker bees.

[2051.] *Dwindling Stocks and Unfertile Queens.*—One of my hives, from which I took the greatest part of my honey last season, has rather puzzled me this year. Two months ago I noticed a quantity of bees dead outside, and on examining hive I found a large number inside also dead, with very little brood. Later on I examined it again, but could find no queen, though there were plenty of eggs, sometimes three and four in one cell; but as the bees kept dying, I inserted a frame of brood from another hive. All this brood has now hatched out, except a few young bees trying to get out of cells, but unable to do so. Quantities of bees are, however, dead in cells, as in piece of comb enclosed, and the living bees at present do not cover more than two frames, and are still dying. You will observe eggs in some cells of combs enclosed. 1. Does this denote a fertile worker? 2. Do you think stock is diseased, or from what cause can the bees have died?—NOVICE, *Long Eaton.*

REPLY.—1. The compact mass of drone-brood being raised entirely in worker-cells—along with the details given above—proves that there is an unfertilised queen in the hive. We also find signs of foul brood, which will probably be a primary source of the mischief. We should burn the few remaining bees, together with combs and frames. They are of no possible use, and may do much harm by keeping.

[2052.] *Bees in Observatory Hives.*—1. If a three-frame observatory hive be permanently stocked, and bees allowed to fly in and out from it as in an ordinary hive, could the bees be confined (using perforated zinc) and hive removed for exhibition, say, for two days without any injury resulting to bees? 2. Presuming this could be done, would the queen continue to lay and bees perform usual work under such circumstances? 3. Would it, if desired, be possible to ensure queen always being visible by confining her on the comb in a cage with glass top? 4. If hive were opened during this time, would bees escape and take wing, thus making it difficult to get them in hive again?—G., *Dartmouth.*

REPLY.—1. So long as the hive is properly ventilated at top and bottom, no harm will follow. 2. Unless the bees are allowed to fly at the show, the "usual work" will, of course, be suspended so far as honey and pollen gathering. 3. We should not recommend trying the caging plan on any account; besides, it is not difficult to find the queen in an observatory of the kind mentioned. 4. You had better not try opening the observatory hive at the show, as more or less mischief would probably follow.

Bee Shows to Come.

June 20 to 24, at Birmingham.—Royal Agricultural Society's Show. Letters relating to Bee Department to be addressed, E. H. Young, Secretary.

July 1, at St. Neots.—Hunts B.K.A. Bee and Honey Show in connection with the Agricultural Society's Show. **Open Class** for single 1-lb. jar extracted honey. Schedules and all particulars from C. N. White, St. Neots, Hunts. (See Advt. on page 240.)

July 6 and 7 at Hanley, Staffs.—Horticultural Fête. Medals and liberal prizes for honey. Schedules now ready. Apply J. B. Barrow, Town Hall, Hanley.

July 14 and 15, at Lincoln.—In connection with the Lincs. Agricultural Society. Schedules for the Bee Department from R. Godson, Hon. Sec. Lincs. B.K.A., Tothill, Alford.

July 19, at Wellington (Salop). Wellington and District B.K.A. First annual show of honey, bees, and appliances in connection with the Wellington Horticultural Society's Show. Seven open classes. Entry forms, &c., from R. Holland, Hon. Sec., Haygate-road, Wellington, Salop. **Entries close July 5.**

July 20, 21, 22, at Roundhay, Leeds.—Yorkshire Agricultural Society's Show. Liberal prizes for hives, honey, &c.

July 30.—In connection with Helsby (Cheshire) Flower Show, three open classes and single jar competition. Schedules from Dr. Briant, secretary, Helsby, Warrington. **Entries close July 23.**

August 10, at Clutton, Bristol.—Somerset and South Glos. B.K.A. Annual Show in connection with Clutton Horticultural Society. Six open classes. Schedules from Miss H. Dawe, Long Ashton, near Bristol.

August 10, at Marlow, in connection with the Marlow Horticultural Society. (Under the auspices of the Berks Bee-keepers' Association.) Show of Hives and Appliances, Honey, Bees Nine classes. Excellent prizes offered. Schedules from A. D. Cripps, Esq., Hon. Sec., High-street, Marlow. **Entries close August 6.**

August 28, at Withington, Manchester.—Honey Show in connection with the South Manchester Horticultural Society. Seven classes for honey, including open class (entry free) for single 1-lb. jar. Schedules from Thos. Roberts, Hon. Sec., 15, Brook-terrace, Ladyburn-lane, Withington. **Entries close August 13.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column

W. C. (Twickenham).—*Drone-breeding Queen.*—The frame of comb sent clearly indicates an unmated and drone-breeding queen. You may dismiss the idea of a swarm having issued from the hive under the circumstances, and the failure to mate of the queen subsequently raised has been a consequence of the adverse weather at the time she should have become fertilised.

Warwickshire (Birchfields, Birmingham).—*Top-bars of Frames.*—The various types of top-bars and distance-keepers for frames have each their advocates among bee-keepers, and it thus becomes a delicate matter for us to reply to a request for our "good advice as to the best pattern before I order a gross." As a matter of fact, we have made a lengthy trial of the frames which are stated to have "rather attracted you," and discarded them for those of different and more recent type; but we do not on that account say that all should agree with us, either in the matter of top-bars or metal ends as distance-keepers. As our correspondent dates from Birmingham, we would suggest his paying a visit to the "Royal" Show next week, and there judging for himself on what are supposed to be the most approved and "up-to date" bee-appliances.

J. Harrington (Essex).—*Bees Dying.*—1. Beyond some evidence of "chilled brood" in a few cells, caused no doubt by the adverse weather of a week or two ago, there is nothing wrong with the brood in comb sent. It looked plump and healthy, and with no trace of foul brood among the dead larvæ. We quite expect the stock will get on all right now that the weather is warmer. 2. There is a trace of carniolan blood in the young bees forwarded, but nothing in them to indicate the cause of death.

F. B. T. (Boston).—*Bees Dead from Want.*—It is quite evident from the condition of comb that the poor bees have been in great straits before dying outright. Nearly all of the dead larvæ in cells is "chilled" (not foul), but there are unmistakable signs of incipient foul brood in a few of the cells, so it is, perhaps, a good thing that the end came as it did.

U. W. M. (Berks).—Foul brood is developing fast in comb sent.

Mr. George Rose writes expressing regret at not being able to stage his exhibit entered in the class for collection of bee-appliances at next week's "Royal" show, though he had made arrangements to be at Birmingham and there meet friends and show his goods. His absence is entirely owing to the present season's demand for bee-goods having so increased that his whole time is occupied in the endeavour to maintain the rule of sending off goods same day as received, and so he says "I must reluctantly miss seeing my friends at the 'Royal,' in order to keep faith with customers."

Special Prepaid Advertisements.

Twelve words, Sixpence; for every additional Three words or under, One Penny.

GOOD SWARMS of BEES FOR SALE, 10s. 6d. each packed. F. Gay, Cranbourne, Salisbury. V 43

STRONG HEALTHY SWARMS for postal order, 10s. Mrs. May, Parwich Hall, Ashbourne. V 42

NATURAL SWARMS or Prepared ones, June, 10s. 6d. Rev. Jarvis, Coleford, Glos.

STRONG, Healthy SWARMS, headed by prolific queens, 10s. 6d. each. Orders filled in rotation. Lemin, 294, Hoe-street, Walthamstow. V 79

QUEENS, Stocks, Nuclei, and Swarms. Queen raising a speciality. Eleventh season. Address, Rev. C. Brereton, Pulborough, Sussex.

SWARMS, 10s. to 12s., for cash. Packing free. Satisfaction given for years. Mrs. Kime, Mareham le Fen, Boston. V 93

LIGURIAN QUEENS. Consignment just arrived, after waiting two months for them. 7s. each. Webster, Binfield, Berks. V 96

WANTED, two strong healthy SWARMS or CASTS of pure CARNIOLAN BEES. Particulars, &c. to Surtees, Bolam, Belsay, Northumberland. V 97

WANTED HONEY. Exchange applianees. List free. Russell, 2, Cameron-road, Christchurch, Hants. V 88

CARNIOLAN QUEEN.—WANTED at once one pure choice selected Carniolan Queen. State price to D. Taylor, Ilminster. V 90

FOR SALE, Strong, Healthy Natural SWARMS of my well-known strain, 12s. 6d. cash. E. Middlemass, Stamford, Alnwick. V 95

TWO TOP SWARMS WANTED.—Exchange Perambulator, rubber tyres, reversible hood, good condition. A. B. C., *B. B. J.* Office. V 92

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. Neat Patterns. W. Woodley, Beedon, Newbury.

PRIME Natural Early June SWARMS of my selected strain of English Bees, all 1897 queens, carefully packed and put on rail at 12s. 6d., larger 15s. (Telegrams Chieveley free.) W. Woodley, Beedon, Newbury.

Prepaid Advertisements (*Continued*).

NATURAL SWARMS of my well-known strain 3½ to 4 lbs., at 12s. 6d. each, larger, 15s., headed by 1897 Queens. Address, WHITING, Valley Apiaries, Hundon, Clare, Suffolk. V 81

NEW HONEY WANTED. Clean, well filled Sections (from fruit blossoms). State quantity and price for cash, FELL, Bee-keeper, Finsthwaite, Newby Bridge, Ulverston. V 82

QUEENS, 5s. each, post free; SWARMS, 3 lb. weight, 10s. 6d.; package included; from an apiary certified healthy by two first-class experts. SALMON, Hardwicke, Gloucester. V 83

WHAT offers for Swarm of Bees, 6½ lbs. in temporary hive, nine bar frames? Swarmed June 3rd; another swarmed June 7th. Apply, J. WAYMAN, Cottenham, Cambridge. V 86

FINEST NEW ENGLISH HONEY. Guaranteed pure. 6½d. per lb. Sample two stamps. Deposit or cash with order. A. TWINN, Apiary House, Ridgwell, Halstead, Essex. V 91

WANTED, a YOUNG MAN who understands bees and appliances to help at shows and make himself generally useful. E. C. WALTON, Muskham, Newark. V 89

LADY'S PNEUMATIC BICYCLE WANTED in EXCHANGE for Bees, Hives, Appliances, and high-class black Minorca Fowls. A. BAYLEY, Wordsley, Stourbridge. V 94

22ND YEAR. Good Healthy Natural Swarms with '97 prolific queens. My well known strain, 10s. 6d., 12s. 6d., and 15s., on rail, '97 fertile queens 5s., '98 fertile queens 3s. 9d. both delivered. ALSFORD, Expert, Blandford.

BEES and HONEY. — SPEARMAN, Colesbourne, Andoversford, can supply the very best Cotswold Clover Honey for this season, extracted 57s. cwt., sections 9ls. gross on rail: also good Healthy Swarms Bees, 8s. 6d. to 10s 6d. Boxes returned. Everything guaranteed. Approval, "deposit." V 71

BRICE'S RELIABLE QUEENS. Well-known strain, one quality, one price. Mated tested Queen, 5s. 6d.; Virgins, 3s. each. Post free in my perfected travelling and introducing cage. Quality and safe arrival guaranteed. HENRY W. BRICE, Dale Park-road, Upper Norwood.

HEALTHY NATURAL SWARMS, 12s. 6d. Packed free. A '98 queen presented gratis with each. Choice '98 special raised Queens from prolific, docile, and industrious stock. Price 3s. 6d. post free in introducing cage. Virgins 2s. Satisfaction guaranteed. BEECROFT, Ashford, Staines. V 98

"ROYAL" SHOW BIRMINGHAM

W. P. MEADOWS, SYSTON,

will exhibit at the above show several

Newly Invented Novelties and a large collection of

HIVES, EXTRACTORS, AND APPLIANCES.

This makes sixteen consecutive times of exhibiting at "Royal" Shows.

HUNTS BEE-KEEPERS' ASSOCIATION.

ANNUAL SHOW,

JULY 1st, at ST. NEOTS.

OPEN CLASS for Single 1 lb. jar Extracted Honey. Prizes: 1st, 20s., 2nd. 10s., 3rd. 5s.

In the event of there being less than 30 entries, only half the prize money will be awarded.

The honey will become the property of the Association.

No Entrance Fee.

Secretary, **C. N. WHITE,**
ST. NEOTS, HUNTS.

DON'T GET STUNG,

when by using **APIFUGE** you can easily prevent it.

APIFUGE will also be found extremely useful for travellers in foreign countries where insect pests abound. Bottles **1/-** post free.

S. E. CRIMSHAW, Beeston Hill, LEEDS.

J. S. GREENHILL,

(27 years with Messrs. G. Neighbour & Son)

THE COTTAGER

SOLAR WAX EXTRACTOR.

Made of Tin with Glass Cover, **6/6** each.

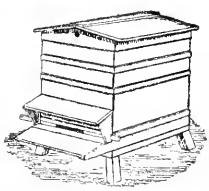
80, Graham Road, Wimbledon.

Illustrated Catalogue Post Free.

H. N. BAXTER,

Sedbergh,

Bees, Honey, and Appliances.



G. H. VARTY,

Etwall, near Derby,

Awarded Prizes during 1897 for Bee Hives and Collection of Appliances at Royal Show, Manchester, Nottingham, Chester, Burton, Shrewsbury, and Derby.

Hives complete from 10/6 each

New Illustrated Catalogue post free.

YORKSHIRE AGRICULTURAL SOCIETY.

GREAT ANNUAL SHOW

AT ROUNDHAY, LEEDS,

JULY 20th, 21st, and 22nd, 1898.

£2,750 IN PRIZES

Will be offered for CATTLE, SHEEP, PIGS, HORSES, JUMPING COMPETITIONS, SHOEING, BUTTER, CHEESE, BEE APPLIANCES, and HONEY.

Entries close on SATURDAY, JUNE 11th. Application for Prize Schedules and Forms of Entry to

MARSHALL STEPHENSON, Secretary,

York, May 21st, 1898.

Telegraphic Address: "YAS, YORK."

GLOUCESTER

is a very good Railway Centre for the West of England, so Bee-keepers living in this part of the country should try **E. J. BURTT,** who keeps a large and varied stock of **Bee Appliances** ready for prompt delivery.

EDWD. JNO. BURTT,

Bee Appliance Manufacturer, GLOUCESTER.

Illustrated Catalogue Free.

Editorial, Notices, &c.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

BIRMINGHAM MEETING, 1898.

The fifty-ninth annual meeting of the Royal Agricultural Society opened at Birmingham, on the 20th inst., under the most favourable weather conditions it is possible to imagine. The show ground has been admirably selected, judging by the hurried glance we got on the way to the Bee Department, whither, as readers will suppose, our footsteps mechanically directed themselves. Of the show we can say practically nothing, save noting the fact that the disappointing weather of the past few weeks "told," and told heavily, so far as exhibits of '98 honey are concerned. However, a few of the most ardent of us (we like to say "us") made a brave effort for the good of "the cause," staged honey of '98, and our only regret was that each and every exhibitor could not have been awarded a prize for his pluck and determination in showing what can be done by those who try. Well, we have no time to say more from the show ground, or these lines will be posted too late to be in the printer's hands to-morrow morning, so close by appending the list of prizes, and will reserve further comment till next week.

The following gentlemen officiated as judges of the Bee Department, as announced in our issue of May 26 last, viz., Messrs. Thos. W. Cowan, Henry Jonas, and T. D. Schofield, whose awards were as follows :—

Class 341. *Collection of Hives and Appliances.*—1st, W. P. Meadows, Syston, Leicester ; 2nd, G. H. Varty, Etwall, Derby ; 3rd, E. C. Walton & Co., Muskham, Newark.

Class 342. *Most Suitable Outfit for a Beginner in Bee-keeping.*—1st, T. Lanaway & Sons, Redhill ; 2nd, W. P. Meadows ; 3rd, J. S. Greenhill, Wimbledon ; h.c., H. Hutchings, St. Mary Cray, Kent ; h.c., G. H. Varty.

Class 343. *Observatory Hive.*—1st, Thos. Richards, Burton-on-Trent ; 2nd, R. Brown, Somersham, Hunts.

Class 344. *Most Complete Frame-hive for General Use.*—1st, W. P. Meadows ; 2nd, Jas. Lee & Son, London ; 3rd, J. S. Greenhill ; h.c., J. S. Greenhill and G. H. Varty.

Class 345. *Complete Frame-hive for Cottager's Use* (price not to exceed 10s. 6d.).—1st and 2nd, W. P. Meadows ; 3rd, T. Lanaway & Sons ; h.c., Jas. Lee & Son and G. H. Varty.

Class 346. *Honey Extractor.*—1st, W. P. Meadows, "Cowan" Extractor ; 2nd, W. P. Meadows, "Guinea" Extractor, with gear ; c., W. P. Meadows, "Cowan" Extractor, open square cage.

Class 347. *Twelve 1-lb Sections.*—1st, W Woodley, Beedon, Newbury ; 2nd, R. Brown, Somersham, Hunts ; 3rd, Miss M. L. Gaytor, Much Hadham, Herts ; c, Toddington Orchard Co, Toddington, Winchcombe.

Class 348. *Twelve 1-lb Sections.*—1st, F. Chapman, Wells, Somerset ; 2nd, W. Woodley ; 3rd, W. P. Meadows.

Class 349. *Twelve Sections of Comb Heather Honey.* — 1st, Thos. Walker, Esthwaite, Hawkshead, North Lancs. ; 2nd, R. W. Patten, Rock, Alnwick.

Class 350. *Three Shallow Frames of Comb Honey, for Extracting.*—1st, Geo. Wells, Eccles, Aylesford, Kent.

Class 351. *Exhibit of Run or Extracted Light-Coloured Honey in Jars not exceeding 2 lb. each.*—1st, Albert Twinn, Halstead ; 2nd, Miss S. J. Cooper, Leicester ; 3rd, R. Brown.

Class 352. *Twelve 1-lb. Jars Extracted Dark-Coloured Honey of 1898, other than Heather.*—1st, Jno. Berry, Llanrwst, N. Wales ; 2nd, E. C. R. White, Romsey ; 3rd, J. H. Wooton, Hereford.

Class 353. *Twelve lb. Extracted Honey, gathered during 1897, or any previous year.*—1st, Jabez Sopp, Crowmarsh, Wallingford, Berks ; 2nd, W. Woodley ; 3rd, P. H. Rawson, Market Drayton ; v.h.c., W. Dixon, Rev. T. J. Evans, Tarvin Vicarage, Chester, and Hugh Rhys, Redbrook-on-Wye, Monmouth.

Class 354. *Twelve 1-lb. Jars Extracted Heather Honey.*—1st, W. Drinkall, Clitheroe ; 2nd, Thos. Walker ; 3rd, Wm. Sproston, Great Haywood, near Stafford.

Class 355. *Twelve 1-lb. Jars Granulated Honey of 1897, or any previous year.*—1st, W. Woodley ; 2nd, F. Harper, Uttoxeter ; 3rd, T. Walker, Jun, Howden, Yorks. ; v.h.c., R. Brown ; h.c., Miss S. J. Cooper ; R. Hamlyn Harris, Hambrook, Bristol ; and Hugh Rhys, Redbrook-on-Wye.

Class 356. *Honey Trophy, staged on space 3 ft. by 3 ft.*—1st, W. P. Meadows ; 2nd, Miss S. J. Cooper.

Class 357. *Beeswax, not less than 3 lb. of Wax.*—1st, R. Hamlyn Harris ; 2nd, Jno. Berry ; 3rd, R. Brown.

Class 358. *Useful Invention connected with Bee-Keeping.*—1st, W. Dixon, Leeds, *New Section Rack with Cleated Separators* ; v.h.c., W. R. Garner, Bourne, Lincs., *Rack of Plain Sections fitted with Garner's Registered Dividers* ; h.c., J. Lee & Son.

Class 359. *Honey Vinegar.*—1st and 2nd, Peter Scattergood, Jun., Stapleford, Notts.

Class 360. *Mead.*—1st, T. I. Weston, Great Totham, Essex.

Class 361. *Interesting and Instructive Exhibit connected with Bee-Culture.*—1st, T. I. Weston, *Solar Wax Extractor* ; h.c., R. Hamlyn Harris, *Honey Raspberry Vinegar.*

HANTS AND ISLE OF WIGHT B.K.A.

PORTSMOUTH SHOW.

The enterprising and prosperous Royal Counties Agricultural Society held their annual show, June 7 to 10, at Portsmouth, and as usual the Hants B.K.A. organised an excellent exhibition of honey, wax, and appliances. Needless to say very little of this season's honey was staged, complaints against the weather being very general; but a considerable quantity of last year's produce was forthcoming, in sections and bottles, the whole of which was in excellent condition. Among hives and appliances three manufacturers exhibited general collections, viz., Messrs. Lanaway, Redhill; J. S. Greenhill, Wimbledon; and C. Overton, Crawley. The first-named took premier honours with four first prizes, whilst Mr. Greenhill secured the larger number of six prizes.

The Bee Tent was erected near the exhibition shed, and was in charge of Mr. Bellairs, who delivered several lectures each day. This was a centre of great attraction in the show, and on Friday a Royal visit was paid there by T.R.H. the Duke and Duchess of York, who were mightily interested at what they saw, and plied Mr. Bellairs with questions. The actual driving was deftly carried out by Mrs. Allden, a lady bee-keeper in the county, who proved practically the suitability of bee-keeping for women. A large quantity of honey was sold in the selling department, sections and bottles finding eager purchasers at a shilling a pound.

We understand the attendances were very satisfactory, as many as 20,000 paying at the turnstiles on Thursday.—*Communicated.*

NEW LOCAL B.K.A. IN WILTS.

A meeting to form an association of local bee-keepers was held in the National Schools, Stratton St. Margaret, on the 10th inst. There was a thoroughly representative gathering, including Mrs. and Miss Pritchard, Mrs. Renshaw, and Messrs. Pearce, Renshaw, Sperring, Turner, Uzzel, and Gilbert. Mr. Gilbert was elected to the chair, and gave an interesting inaugural address. Speaking as a bee-keeper of twelve years' experience, with frame hives, he assured his audience that having indulged in various "hobbies," including dogs, poultry, pigeons, bantams, and rabbits, bee-keeping was the only one from which he could get a balance, and this had generally gone to make up the deficit on his other pets. A more interesting hobby than bee-keeping cannot be found, and an equally remunerative one does not exist. However, "*chacun a son gout*"—bees have a mental end and a business end, but still are quite manageable. A proposition that an association be formed was carried unanimously, and the Rev. C. F. Burgess was duly elected president, Mr. W. Jukes treasurer, and Mr. C. Gilbert hon. secretary. It was agreed to meet again on Tuesday, June 21, at 8 p.m., to discuss a set of rules, and the hon. secretary promised to read a paper on "Storifying for Extracted Honey."—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[3296] The weather has improved certainly during the past few days, but up till the 15th it was very chequered; sometimes bright and then several successive sunless days with a cold east wind and scarcely a bee moving. Swarming has followed suit in the same uncertain fashion; as soon as a warm June day came, some hives swarmed, then all became quiet again. The general report of this district is "everything late by quite a fortnight this year." For those of us who sell swarms, these cold spells in the best part of the swarming season are very tantalising; some customers write "Hurry up, please," while others use more forcible language, demanding to know why the swarms have not been despatched as promised? Thus the poor bee-man has only to hope, and still go on hoping, for the brighter, better weather which would not only bring the swarms off and thus please his customers, but make that bee-man happy to boot. These delays are trials of patience to us all, but the purveyor, I think, decidedly suffers more than the purchaser.

When first supers are filling, and swarms are not wanted, a second rack of sections should be put under the first one, this should be done when the first is about two-thirds full. The same applies to shallow frames; as soon as the bees have started sealing near the top, I put another box of combs under the first one. An easy way of doing this is as follows: Get a stool, or, if your hives are flat-topped and close together, the top of next hive makes a convenient platform (I use an empty section crate). First prise up the rack or the box with a screwdriver to break the attachments, then spread the carbolised cloth, and, as the super is lifted off the hive, allow the "cloth" to drop on to the frames; the partly filled super is then set on the top of the empty one already placed on the stool; this will confine the bees. The cloth is then removed and both racks—or boxes, as the case may be—are quickly replaced on the hive before the bees come up to the top of the

frames again. For carbolising cloths, I use Calvert's No. 5 carbolic acid, a little of which is placed in a small bottle ; cut a notch in the cork so that minute drops only will come out with a shake. Damp your cloth (a piece of strainer cloth or calico), then sprinkle a few drops of acid about it, and by rolling up tightly for a few minutes the whole of the material becomes impregnated with the acid. After using, it may be rolled up and put in an old mustard tin, which keeps it in order ready for use when wanted.

In removing supers when full, I always recommend the super-clearer, and consider it one of the best appliances introduced in recent years. The carbolised cloth is a useful adjunct to the "clearer," while the two together make a practical and indispensable whole when manipulating an apiary in near contiguity to neighbours who are afraid of bees or make a big fuss if they get a sting.—W. Woodley, *Beedon, Newbury.*

BAGGED BEES BY BICYCLE.

EXIT YE STRAW SKEP.

[3297.] Your correspondent D. G. (3287 p. 224) asks for further details of bagging bees. As to the bags, these are best cone-shaped, about 2 ft. 6 in. deep, looking in section like the letter A. A brass ring is sewn to the apex, and a hoop of cane or wire fixed half way down, where the bar in the letter A occurs. A stout hem runs round the mouth with a tape or string running in it, and this mouth must be big enough to surround a straw skep. I have driven bees direct into these bags ; but unless they are opaque I think the use of a skep saves time.

If you decide to do without skeps, lift up the stock of bees, slip the mouth of the bag over its mouth, invert, and suspend to a bough or pole. Three or four can thus be driven simultaneously. If the skep is preferred, so soon as most of the bees are up in it (by ordinary driving) separate skep from stock, suspend bag as described above, give a sudden jar, when the bees will drop in a mass to the bottom of the bag, and before they have time to recover themselves separate skep and bag and slip up the hem ; tap tight, so that none escape. Now suspend by the brass ring to a bough or handy nail, and when the bees have clustered again in the apex, open the mouth, roll up the sides until the bees are exposed, and the flyers will join them quietly as in a swarm. You may keep adding stock after stock to your bags in this way until they are full. Let the queens settle their affairs themselves ; ladies always manage these matters better than we do !

Another "dodge" I have not seen in print, we are adopting about here, and I venture to predict it will seal the doom of the skep in a very few years. I speak of the ubiquitous American lard tub, which can be bought for 2d. or 3d., and which is far and away better than the best straw skep in existence. It is stiff and strong, and will carry a rack of sections on top admirably. It is perhaps best right side up with floor-board and bee-hole *on top ;* the combs are then suspended from the crown-board and if the bucket is left greasy they can be lifted out clean from the bucket for examination. But either end up they are in every way just the thing you want, and when you have a swarm you don't know what to do with, try it, Sir!—E. H. Bellairs, *Christchurch, June* 16.

CARRYING DRIVEN BEES.

[3298.] I have read with interest the discussion on this subject. Personally I should not care to ride a bicycle and carry bees in muslin bags. I consider the risk too great. Just consider the consequences of a collision with a cart, or a dog, or another wobbling cyclist. Possibly a painful death. The material seems to me too flimsy to be safe. Hurding is better, but I lost some driven bees through using it, they were confined in a skep with this material, as I thought it open enough, but the next afternoon I found them nearly all dead, they had disgorged their honey and perished in it. Yet they were in a cool shed. Afterwards I used cheese strainer cloth, and had no further loss. My own idea is that a light wooden box with perforated zinc for ventilation, would be better, it need not be large. I believe I could carry three on a bicycle. The bees could be got in by placing it on the stool where they were and running them in from the skep.

For convenience on the outward journey the boxes might be made to fit one inside the other.—Alpha, *Driffield, Hull.*

BEE NOTES.

OPEN CLASSES—PRICE OF SWARMS.

[3299.] May I suggest that secretaries, when advertising in your "Bee Shows to Come" column, be asked to state whether or not *open classes* are included in their schedule ? This would save would-be exhibitors the trouble of writing for a schedule of shows where no open classes are provided.

I have seen swarms advertised in two newspapers this week at prices that are likely to seriously injure the business of those who depend upon their bees for a living. One of the advertisers referred to is offering swarms at 7s. 6d. and 5s. each, and the other at 7s. 6d., young queens and all that is supposed to make a good swarm included. Having no swarms to sell myself I have no axe to grind, but only wish to call attention to this unfair dealing. Bee-keeping is worthy of all the booming that it receives, but its present popularity has brought out a large number of bee-keepers of fairly substantial means, who, being independent of their bees for their

income, dispose of their produce at "baiting" prices, to the ruin of those of their neighbours who are in less comfortable circumstances. I am prepared to admit that every one may do as he likes with his own produce, but I must also call attention to the fact that we have to remember our duty to others.—WM. LOVEDAY, *Harlow, June* 15, 1898.

DIRECT INTRODUCTION OF QUEENS.

[3330.] The books say when the queen is to be introduced at night, "Blow a little smoke in to drive the bees back," &c. This is, however, quite unnecessary if the following plan is adopted :—Take a piece of stiff card—a post-card will do, but a larger size is better—cut a hole smaller than the size of the cage the queen is to be kept in when fastening, place it over the frames so that the hole is between two frames, then lay a small card over the hole and replace the quilts. At night take the queen, place her, of course, in her cage, over the small card, slip away the perforated zinc, or whatever confines her in the cage, then the small card, thus giving her access to the hive, when she will probably run in. If the bees rush up into the cage it does not matter, for not a bee can escape nor can the queen by any possibility get under the lugs of the frames, the quilts can be placed over the cage and left till next day.

The plan may seem complicated, but in reality is very simple. I use an ordinary pipe cover cage with a square piece of perforated zinc to confine her, securing them together by tying tape round. A special cage with a sliding bottom would no doubt be better, but I know of no such thing on the market.—ALPHA, *Hull.*

A WORD FROM HAMPSHIRE.

[3301.] Mr. Sharp's interesting note on uniting bees (3293) will be read by many of us with welcome surprise. Have we all these years been fearing to unite our bees without all sorts of precautions when we might simply have put them together as a "happy family?" It is a welcome revolution, but are there any dangers to guard against to ensure success?—A. A. H., *Alresford.*

SENDING SWARMS BY RAIL.

[3302.] I wish some of our experts would settle the question as to swarms losing weight whilst in transit over our railways. I have been assured by some dealers that the swarms sent to me this season were correct in weight when put into swarm boxes, but I found in many instances as much as 1 lb. shortage in the net weight when scaled by me.

I would like to draw the attention of those dealers who send bees over our railways that the companies have a "through rate," even if packages are sent over more than two lines. I have claimed, with success, the overcharge, but the time wasted, and the "red tape" one has to put up with is very tiresome. I always buy bees now to be sent at "through rate." If not so marked, each company will put on their charges, and so make a nice little bill to pay for carriage, whereas the packages will come over several lines at the ordinary rate per mileage if so marked.

Again, some dealers charge more for swarm-boxes than they are really worth. I suppose this is so that they may be returned to them; even then the return carriage is more than the boxes cost. Far better to make a reasonable charge when making bargain.

One man advertised "A large May swarm" for sale. I bought it and sent the cash. I was much astonished to find deposited at my door a huge tea-chest, in which a small butter-pail was enclosed in a coarse potato sack, wrapped round with straw, the said pail containing about 1½ lb. of bees. Many hundreds had died, I presume from want of air. Carriage 2s. 8d. to pay. I think, Mr. Editor, I have been "done."—AN ESSEX MAN.

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Our illustration this week shows the apiary of the Rev. T. J. Evans, vicar of Tarvin, and formerly of Hargrave, Chester. Mr. Evans is a reader of the B.B.J. with whom it has been our good fortune to make a very pleasurable acquaintance now extending over some time. We have met not only "among the bees," but under not quite but nearly all the varying phases of a bee-keeper's progress from beginner to expert. Our first acquaintance began by the writer finding out—after judging at a Cheshire show—that he possessed the knack of winning prizes by the excellence of his exhibits. Then we later on have met him as a member of his County Association, promoting the success of bee shows held under its auspices by his active and energetic labours in the bee department. Still later, his continued interest in bee-craft—and the desire to assist his own parishioners and others who needed help with their bees—induced him to be examined for the Certificate of the B.B.K.A. as a bee-expert, and having secured this evidence of proficiency he spares no trouble in imparting his knowledge to bee-keeping neighbours, rich and poor alike. In response to our usual request for a few particulars of his bee-experience, Mr. Evans writes :—

"I cannot claim anything new or original in the management of my apiary. I endeavour, to the best of my ability, to keep to the directions of the "Guide Book," and the practical suggestions which are to be found from week to week in the B.B.J. When I removed from

Hargrave to Tarvin in the autumn of 1896, I found the side of a small paddock, adjoining the vicarage garden, railed off for a drying ground. This I at once selected for my hives, which face south, and have behind them the protection of a good fence and some fruit trees, as shown in the photo. My normal number of stocks is from ten to twelve. With the care of a large parish, these are as many as I can comfortably manage as a hobby and a means of recreation. The bee-house on the left of the picture often shelters one or two stocks, but is used chiefly for keeping my smoker, and various odds and ends which the bee-keeper must have "handy." I am glad to say I do not know what foul brood is in my apiary. My first experience with bees was when a boy years ago. My father generally had a few skeps in the old rectory garden in Wales, and it often fell to my lot to hive the swarms (of course into a hive well dressed with leaves, sugar, &c., &c.) and, alas! to bury them in the autumn after the village bee-woman had paid them a visit with her murderous sulphur candle! In 1882 I saw modern hives for the first time in the garden of the Rev. G. A. Robins, of Eccleston, where I was curate, and I was at once filled with a longing to renew my acquaintance with bees on more modern and humane principles. As soon, therefore, as I was settled at Hargrave, I purchased a frame hive and a swarm of bees; but, owing to my inexperience, I neglected to feed them in time, and before the winter began the hive was tenantless! Two years after I bought a couple of skeps from a man who was leaving the parish, and resolved to start bee-keeping afresh. Profiting by my past failure, I sought the help of a practical and intelligent bee-keeper (J. Wynne, Waverton), and thanks to his advice, the "Guide Book," and your valuable journals, I soon became familiar with modern methods, and have ever since been successful in the management of my apiary, which is now a source of great pleasure and no little profit. My best take of honey was 520 lb. from seven hives in 1893, whilst last year it was 750 from twelve hives."

Our pages have often testified to Mr. Evans'

THE REV. T. J. EVANS'S APIARY, TARVIN.

success as an exhibitor not only at local shows, but at the Royal and Dairy Shows. In 1894 he was awarded the prize for the best managed apiary in Lancashire and Cheshire—a success of which he was justly proud.

Our latest meetings with Mr. Evans have been as an able colleague in judging at shows for, having himself been a successful exhibitor in important competitions, and holding, as we have said, an expert's certificate, it goes without saying that he possesses the qualifications which make an efficient judge. In concluding we must add a line to say that in the district in which Mr. Evans lives, he has done much to encourage bee-keeping among his parishioners and neighbours, and has many enthusiastic and successful disciples.

METEOROLOGICAL REPORT.

DUDDINGTON, STAMFORD, NORTHANTS.

Rainfall, May 1 to 28, 1898.

1898. For the weeks ending	Rainfall, in.	Average, in.	Difference from Average, in.
May 7	·88	·40	+·48
,, 14	·43	·46	−·03
,, 21	·86	·52	+·34
,, 28	·11	·54	−·43
Total	2·28	1·92	+·36

Rainfall, January 2 to May 28, 1898.

Rainfall, in.	Average, in.	Difference from Average, in.
7·03	8·62	−1·59

HONEY IMPORTS.

An account showing the value of honey imported into the United Kingdom during the month of May, 1898, £4,433.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

PROTECTING THE BEE INDUSTRY.

COMPULSORY POWERS FOR DEALING WITH FOUL BROOD IN THE U.S.A.

We reprint below from the *American Bee Journal*, dated 28th ult., the full text of the recently-adopted Law on Foul Brood for the State of Utah, U.S.A. :—

Law of Utah for the Protection and Encouragement of the Bee Industry.

1. The board of county commissioners of the several counties shall, when petitioned by a majority of the bee-keepers thereof, appoint one or more qualified persons inspectors of bees for their respective counties.

2. Such inspectors shall hold their office for two years, and until their successors are appointed and qualified. They shall qualify by taking and subscribing their official oath, and by giving bonds to be approved by their respective boards of county commissioners, which oath and bonds shall be filed with the county clerk.

3. Inspectors shall be paid out of the county treasury for services actually rendered at such rate per day as the board of county commissioners may fix. The assessor of each county is hereby required to assess each colony of bees in this county in the same manner as other assessments are made. All taxes shall be assessed and collected thereon in the manner provided by law for the collection and payment of county taxes.

4. All hives of bees in each county shall be carefully inspected at least once each year by a county or district inspector, where such inspector has been appointed, and at any time upon complaint that disease exists among bees of any person, the inspector to whom complaint is made shall immediately inspect the bees said to be infected. The inspector shall have authority to take charge and control of diseased bees and their hives, and the tools and implements used in connection therewith for treatment ; or destroy such bees, brood, or hives, and their contents or implements as may be infected ; provided that if any owner questions a decision of the inspector he may appeal to three arbitrators selected from among the bee-keepers of the county, one of whom shall be chosen by the owner, the second by the inspector, and the third by the two so chosen, whose decision, concurred in by at least two of their number, shall be conclusive as to the condition of the bees at the time of such examination.

5. Any person who shall hinder or obstruct, or attempt to hinder or obstruct, a duly appointed inspector in the performance of any duty required by this title shall, on conviction thereof before a justice of peace having jurisdiction, be deemed guilty of a misdemeanour, and shall be fined for the first offence not less than five nor more than twenty-five dollars, and for any additional offences, any sum not exceeding fifty dollars.

Approved, March 11, 1897. To take effect January 1, 1898.

Echoes from the Hives.

Hatfield Heath, Harlow, Essex, June 16.—For an interval of one or two days the hopes of bees and bee-keepers were raised by sunshine and the prospect of a good honey-flow. But to secure these good things it needs to be intensely hot, when the sun may be seen to be drawing tons of water upward from the earth. For some days prior to the date on which I write, our hopes are almost extinguished for we have had thunder and hail, alternated with fitful gleams of sunshine and sharp storms, or only varied by a succession of cold, damp, and dull days, very damping to the spirits of bee-keepers. The bees submit reluctantly to the idleness enforced by bad weather, with abundance of forage on all sides. Never was forage for the bees more abundant here, but all the bloom is quite a fortnight late. This is in favour of the bees ; but the feeders had to be kept in regular use until May 22, to an extent unknown to me in spring in previous years. Bees were never in better condition than they are just now, and swarms would have been numerous long ago, but queen-cells have been either abandoned or destroyed. Swarming was general among skeppists during the third week of May, but as these swarms are not fed, they are not worth much now, if alive.—WM. LOVEDAY.

Stratton St. Margaret, Wilts, June 13.—Bee-keeping around here is booming, and we are engaged in the formation of a local association. The year 1898 should go down to

posterity as "the year without a spring." We have had none here. It is colder to-day than some days in January. This May has been the very worst I ever remember for bees My first swarm came off on May 9, and several about May 15. Stocks decreased rapidly in weight during May, and have not yet recovered themselves. I discovered a bad case of foul brood about four miles from here, and burnt combs, &c., and shall watch and assist until cured. Haying has commenced, and unless warm weather sets in almost immediately very little "surplus" will be secured this year, as most hives are decidedly still below par.—C. J. G. G.

Queries and Replies.

[2053.] *Querying "Useful Hints."*—In the B.B.J. of May 12 there appears a statement which to me, at least, is striking, and I am surprised that no one has taken up the pen to draw attention to it. I refer to a passage in the "Hints" column (page 181), wherein it is stated that "drones, as well as queens, should be excluded from surplus-chambers where honey of very high quality is desired." Now, Messrs. Editors, I have taken both your journals for a long time, and I have the Bee-keepers' "Guide Book." I have also read other writings on bees; but never do I remember reading that the presence or otherwise of drones made any difference whatever to the *quality* of the honey produced. In the "good old days" before the introduction of excluder zinc, the honey gathered was, I venture to say, as good as that produced in the present day; but the statement in question certainly implies that it was not so good—an assertion which many bee-keepers will, I am sure, be inclined to dispute. 1. As the subject is interesting, perhaps you will be good enough, for the benefit of all your readers, to "light the matter up" a little in your next issue? 2. In the same column we are also advised not on any account "to allow a queen to enter a surplus-chamber so long as there are ten standard frames of good worker-comb available for egg-laying in her own compartment." This would seem to imply that ten standard frames are sufficient for the brood-chamber. But is that always so? For my part, I am disposed to think that the most successful bee-keeper this season will be the man who, day by day through the recent long spell of inclement weather, has fed his bees slowly and regularly when necessary, at the same time gradually enlarging the brood-nest as needed, no matter if it contained ten, fifteen, or even twenty frames. And I feel sure that, had bee-keepers generally anticipated the duration of the unsummery and "samply" weather we have been experiencing, many would have worked their stocks on the lines just indicated instead of waiting and hoping day after day for the desired change of weather. 3. Again, does not the author of the "Guide Book" state that he has obtained excellent results by allowing the queen access to two sets of combs placed one above the other, and each set containing ten or more standard frames? I do not say it would be wise for all to adopt this method of working, but Mr. Cowan's experience would seem to indicate that stocks can often be worked to advantage on more than ten brood frames.—T. W. T., *Lydbrook.*

Reply.—We are not quite sure whether or not the above was meant to be dealt with in our "Query and Reply" column, but we will no doubt be pardoned for inserting it here, and in reply beg to say:—1. The "hint" as to honey of very high quality was intended to apply only to sections intended for exhibition, and we thought the context made this plain. But when our correspondent "ventures to say" that the honey of the "good old days was as good as that produced in the present day," it opens up questions for discussion which did not enter our mind when writing the "hint" referred to, and we need not, therefore, dispute the point here, as it is merely a matter of personal opinion. Regarding the request to "light the matter up a little," however, we may say that sections exposed to the emanations of the brood-nest, or to the constant clustering on them of drones, will be less perfect in quality than if kept free and apart from both brood and drones. 2. No doubt cases occur at times when specially prolific queens will occupy an unusually large brood-nest, but these are the exceptions that go to prove the rule; nor does it in any way weaken our point as expressed in the words quoted when taken in their entirety. For the rest, it is not for us to question what our correspondent is "disposed to think" faulty in our "hints" to readers, all of whom will no doubt adopt such as they may deem "useful" and discard the rest. 3. The statement referred to as in "Guide Book" occurs in the chapter on "Doubling and Storifying" (p. 57), and the excellent results mentioned were obtained by working "three and even four hives one upon the top of the other," as stated by the author. We had not this system of working in mind when writing on page 181 of B.J.

[2054.] *Buying Diseased Stocks.*—I have kept bees for about twenty years, but until a few years ago only in skeps, and never had an epidemic. For about fourteen years the bees were descendants of the original purchase. Four years ago I got a frame-hive, and last year my frame-hives had increased to five. One of these I bought last autumn, but it, along with one of my own, succumbed in early spring. However, I bought three stocks, advertised for sale as 'healthy bees," but as spring advanced all

three were making no headway. I reduced the number of frames, extracted the stores, medicated it, and fed gently back. The worst-formed combs were melted and sent to be manufactured into foundation. I then gave each stock a sheet of foundation about begining of May, and subsequently a second. Last week I was struck with peculiar odour from what should have been my best stock. I examined it and found it in bad condition. I followed advice of Guide Book, *i.e.*, burnt brood and frames, made an artificial swarm of the bees, and disinfected the hive with carbolic acid, two parts of acid to one of water. After forty-eight hours I returned the bees to the hive. I gave them a few combs with brood from a healthy stock, as I had no foundation at the time. It was here that my trouble began. I put on a few empty sections above for the bees to clear out the honey and start the queen laying again. Next day I was expecting to see a swarm from a skep, when suddenly the foul brood swarm issued from the hive, and, to complete my dismay, the skep swarmed at the same time, and both swarms united! They were hived together on to ten sheets of wired foundation. I saw both queens, and caged one for an emergency, the other going in with the swarm. In the evening, however, I found the bees beginning to leave the hive, so I gave them the caged queen; this stopped the rush, and they were at work yesterday. The first queen had evidently come to grief. 1. What would cause the artificial swarm to desert hive and the combs of sealed brood; they had their queen? 2. Will my double swarm be liable to show the disease as soon as brood is hatched if I feed with medicated sugar? 3. What should I do with hive No. 2. If I re-queen, will that do any good? 4. If I spray with phenyl (1-20) some last year's combs that came from infected hives, can they be used again for brood chambers, and could I use the honey if medicated?—D. V., *Dunaskin, N.B., June* 16.

Reply. — 1. The excitement caused by giving sections overhead for "bees to clear out the honey," along with odour of the carbolic acid, would tend to prevent them from settling quietly down, and no doubt caused them to desert the hive as stated. 2. All depends upon the thoroughness of the measures taken to prevent infection. 3. The joining of the natural and the artificial swarms was a circumstance over which no control was possible. 4. The misfortunes attendant on bringing diseased lots of bees into your previously healthy apiary have certainly been aggravated by the way in which you have united healthy bees with those diseased, and we need no greater cause for urging care than the proposal to give combs and honey from infected hives to those now healthy. You must avoid using honey from diseased stocks as bee-food as you would the plague, for although perfectly innocuous so far as human beings are concerned, it means certain infection to any colony of bees partaking of it.

[2055.]—*A Lady Beginner's Queries.*—Being only a beginner with bees as yet, I ask for a little help from a reliable quarter of the profession, though rather sorry to trouble you. I have been desirous of a May swarm from my one strong stock, so as to build up two good stocks for honey-gathering by the end of June, but the weather has been against me. I thought of making an artificial swarm; but I read "Hints," page 211 in the B.J. of June 2, that beginners are not encouraged in this direction, so I have decided to give up the notion of increase for this year. Yesterday I opened the hive to put on a rack of sections. Although many bees were out at work, all the eleven frames in the hive seemed quite crowded. I raised and looked at the three back combs. Drones were there among the bees. I did not see the queen or queen-cells on those three combs. A cool wind was blowing and, being afraid of chilling, I did not look further, but put on the excluding zinc (the slots running parallel with the frames (I); was that right?). What I wish to know is: 1. Should slots in zinc of queen-excluders run parallel with the frames of brood-chamber, or is it immaterial? 2. For how many (fine weather) days may I leave the rack of sections undisturbed before I give another? 3. How shall I know when the honey is "ripe" enough to be taken out of hive?—Amédée, *Saltburn-by-Sea, June 7.*

Reply.—1. The length of the opening or "slot" in zinc should run across the top bars, not parallel to them. 2. Bees will at times fill a rack of twenty-one sections in about a week, but it is quite impossible to measure time so far as bee-work is concerned when so many things have to be taken into account. Give a second rack when by raising the covers it can be seen that those on are getting well forward in sealing. 3. As a rule, sealed honey may be taken as ripe, but letting it remain a few days on the hive no doubt improves the consistency.

[2056.] *Bees Dying.*—Can you tell me what is wrong with one of my hives? The bees were originally in a skep. They have always done well, and last year sent off a strong swarm. This year, on May 24, I drove them from the skep into a bar-frame hive, and transferred the combs in the way described in the "Guide Book." Queen cells had been started, but these I cut out, as I did not want the bees to swarm. On June 7 the hive was examined by the expert from the Bee Association, who put in extra bars of comb-foundation. He said that the bees were doing well, and were a strong and healthy lot. Since then I have noticed that the bees, instead of working, are all clustered out on the floor-board, and seem to be idle. To-night I examined the hive. It contained a lot of dead bees—nearly all drones. The floor-board was damp, and the entrance partly choked with dead bees. These I took

out, and scraped the floor-board, on which there was a lot of the substance of which I send you a small portion, together with a few of the dead bees. There was sealed brood in the hive, and queen cells had been started, though there were five bars of foundation untouched. I cut out the queen cells and am now afraid that the queen may have been amongst the dead bees. The hive was a new one and, therefore, perfectly fresh and clean when the bees went into it.—M. B., *Wilts.*

REPLY.—Without full particulars as to condition of combs and bees, and whether the queen is still in existence, it is difficult to suggest a probable cause of their present condition. There were only drones in box sent us, and the substance mentioned is an accumulation of dirt, such as is found in neglected hives. Was there young brood in the hive? The late unseasonable weather might account for the destruction of the drones. Have you no one near you who could make an examination of the stock and help you to put matters straight. We are at a loss to understand why the foundation given by expert is still untouched.

Bee Shows to Come.

June 20 to 24, at Birmingham.—Royal Agricultural Society's Show. Letters relating to Bee Department to be addressed, E. H. Young, Secretary.

July 1, at St. Neots.—Hunts B.K.A. Bee and Honey Show in connection with the Agricultural Society's Show. **Open Class** for single 1-lb. jar extracted honey. Schedules and all particulars from C. N. White, St. Neots, Hunts. (See Advt. on page 240.)

July 6 and 7 at Hanley, Staffs.—Horticultural Fête. Medals and liberal prizes for honey. Schedules now ready. Apply J. B. Barrow, Town Hall, Hanley.

July 14, 15, and 16, at Witton Park, Blackburn.—Bee and Honey Show, in connection with the Royal Lancashire Agricultural Society's Exhibition. Open classes, with liberal prizes for twelve 1 lb. jars and twelve 1 lb. sections of new honey. Also classes for same open to county only. Lectures in bee-tent each day, under the auspices of the L. & C. B.K.A. Jas. Birch, secretary, R.L.A.S., 34, Castle-street, Liverpool **Entries close July 1.**

July 14 and 15, at Lincoln.—In connection with the Lincs. Agricultural Society. Schedules for the Bee Department from R. Godson, Hon. Sec. Lincs. B.K.A., Tothill, Alford.

July 19, at Wellington (Salop). Wellington and District B.K.A. First annual show of honey, bees, and appliances in connection with the Wellington Horticultural Society's Show. Seven open classes. Entry forms, &c., from R. Holland, Hon. Sec., Haygate-road, Wellington, Salop. **Entries close July 5.**

July 20, 21, 22, at Roundhay, Leeds.—Yorkshire Agricultural Society's Show. Liberal prizes for hives, honey, &c.

July 30.—In connection with Helsby (Cheshire) Flower Show, three open classes and single jar competition. Schedules from Dr. Briant, secretary, Helsby, Warrington. **Entries close July 23.**

August 1, at Beddington, near Croydon.—Surrey Bee-keepers' Association Annual Show, in connection with the Beddington, Carshalton, and Wallington Horticultural Society. Additional open classes. Increased prizes and medals. Schedules from F. B. White, hon. secretary, Marden House, Redhill. Entries must be made before July 16.

August 1, at Melton Constable Park.—North Norfolk B.K.A. Annual Show. Three open classes. Schedules from C. J. Cooke, hon. sec., Edgefield, Melton Constable. **Entries close July 25.**

August 1 and 2, at Althorp Park, Northampton.—Northants B.K.A. Honey Show, in connection with Horticultural Society's Show. Several open classes. **Entries close July 26.** Schedules and all particulars from R. Hefford, Kingsthorpe, Northampton.

August 10, at Clutton, Bristol.—Somerset and South Glos. B.K.A. Annual Show in connection with Clutton Horticultural Society. Six open classes. Schedules from Miss H. Dawe, Long Ashton, near Bristol.

August 10, at Marlow, in connection with the Marlow Horticultural Society. (Under the auspices of the Berks Bee-keepers' Association.) Show of Hives and Appliances, Honey, Bees Nine classes. Excellent prizes offered. Schedules from A. D. Cripps, Esq., Hon. Sec., High-street, Marlow. **Entries close August 6.**

August 13, at Dumfries.—In connection with "Band Contest," the South of Scotland B.K.A. will hold a honey show as above. **Two open classes for "Three's."** Schedules from Mr. J. Kerr, Hon. Sec., Douglas-terrace, Dumfries. **Entries close August 6.**

August 13, at Stoke Prior, near Bromsgrove.—Honey Exhibition in connection with the Stoke Prior Horticultural Society. Seven open classes. Three "Gift" classes of two 1-lb. sections of honey, two 1-lb. jars extracted honey, and single 1-lb. jar candied honey. Liberal prizes. Schedules, entry forms, &c., from Percy Leigh, "Beemount," Stoke Prior, near Bromsgrove, Worcestershire. **Entries close August 6.**

August 15 and 16, at Felling.—Northumberland and Durham B.K.A. honey exhibition, in connection with the Felling Flower Show. Schedules from T. Russell, 17, Stephenson-terrace, Felling. **Also at Gateshead, August 29 and 30.**—In connection with the flower show. Schedules from T. H. Armstrong, 111, Prince Consort-road, Gateshead. **Entries close August 20.**

August 17 and 18 at Dover.—In connection with the Dover Horticultural Society at Dover College Grounds. Additional open classes. Increased prizes and medals. Schedules from H. W. Brice, Hon. Sec. Kent and Sussex B.K.A., Dale Park, Upper Norwood, S.E.

August 17 and 18, at Blackpool.—Honey show in connection with the Blackpool and Fylde Horticultural Society, under the auspices of the L. & C. B.K.A. Schedules from C. E. Riding, Secretary, 9, Central Beach, Blackpool. **Entries close August 8.**

August 17 and 18, at Ince Hall, near Chester.—Open classes for six 1-lb. jars, three 1-lb. granulated, and single 1-lb. jar. Schedules from the flower show secretary, Ince, near Chester.

August 24, in Neston Park, Wilts.—Honey exhibition in connection with the Atworth and District Horticultural Show. Seventeen classes with liberal prizes, including single 1-lb. jar and single section, with free entry. For particulars apply to J. P. Inkpen, Sec., Atworth, Melksham. **Entries close August 20.**

August 27, at Windsor.—Windsor and District Branch, Berks B.K.A. Bee and Honey Exhibition, in connection with the Liberal Club Annual Flower Show. Schedules from J. Hyde, jun., Hon. Sec., 55, Bexley-street, Clewer. **Entries close August 18.**

August 28, at Withington, Manchester.—Honey Show in connection with the South Manchester Horticultural Society. Seven classes for honey, including open class (entry free) for single 1-lb. jar. Schedules from Thos. Roberts, Hon. Sec., 15, Brook-terrace, Ladyburn-lane, Withington. **Entries close August 13.**

September 7 and 8. At the Cattle Market Derby.—Derbyshire B.K.A. Seventeenth Annual Exhibition of Bees, Honey, and Appliances, in conjunction with the Show of the Derbyshire Agricultural Society. Liberal prizes. **Eight open classes.** Schedules from F. Walker, Hon. Sec. D.B.K.A., 64, Gerard-street, Derby. **Entries close August 31.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column

A BEGINNER (Erith, Kent).—*Bees not entering Surplus Chambers.*—In such critical weather as the present, it is not surprising that bees do not enter surplus chambers; indeed, had

our advice been asked as to the supering, we should probably have recommended feeding instead, when brood-chamber was found full of brood and very little honey. 3 The cast-out drones indicated scarcity of food rather than that the hive had swarmed. 4. It is both wise and quite safe to medicate all food given to bees in a district where foul brood is known to exist. 5. Bees are of the ordinary native variety.

W. B. and H.—*Suspected Foul Brood.*—No letter or name accompanied this sample of comb, and we must again draw our correspondent's attention to our rules in this respect. Piece of comb sent contained pollen and honey only.

J. E. (Callington) —*Foul Brood.*—Sample of comb badly affected with foul brood. Package came to hand completely smashed through careless packing, and letter enclosed was so foul that we had at once to destroy the whole. Too much care cannot be exercised when despatching parcels of this description to us, and on no account should letters be placed next to combs containing, or suspected to contain disease.

F. H. R. (Holme).—*Cyprian Bees.*— These bees have fallen into such disrepute with bee-keepers owing to their uncertain temper and extreme viciousness at times, that we think dealers and queen rearers, both at home or abroad, have given up supplying them.

W. L. (Kimbolton).—1. Descriptions sent by inexperienced bee-keepers are at times so utterly misleading that we cannot possibly give a reliable opinion as to foul brood without seeing a sample of comb. 2. The cappings of healthy brood are frequently in colour a sort of brown, just as normal drone brood projects very much from the face of the comb; but if drone larvæ is reared in worker cells, it denotes either a worthless queen or the presence of a fertile worker.

Cherry Blossom (Yorks).—*Dealing with Young Virgin Queens.*—1. A young queen will feed herself when one or two days old. 2. A young virgin queen may be caged for three or four days if there is unsealed food within reach, but it tends to injure her more or less because of her worrying to get free. Besides, queens require nitrogenous food (pollen) as well as honey when so young. 3. Bees sent are well-marked Italians. 4. Piece of comb is affected with foul brood.

Hartlepools and District B.K.A.—Referring to our reply to "Electro-How," on p. 229 last week, a correspondent writes to say that "the Hon. Sec. is J. Law, Esq., Hutton-avenue, West Hartlepool, who will be glad to give every information required." He also adds: "We are receiving every encouragement, and hope to do much good in our district."

W. E. S. (Pershore).—*Beet Sugar for Feeding Bees.*—We consider the sample of sugar sent unsuitable for bee food. Use only granulated *cane* sugar.

C. G. (Swindon).—*Queen Cell not Hatching.*—We find no larva in the cell sent. We should think the young queen had been chilled, and hence its failure to mature. We find no trace of "foul brood."

C. W. P. (Middlesex).—*Foul Brood.*—Comb sent is badly affected with foul brood. Bees and combs should be at once destroyed, and hive thoroughly disinfected before being used again.

H. Y. B. (Long Stratton).—*Foul Brood.*—Comb is affected with disease of old standing. If bees are numerous the course you advised was correct.

A. J. P. (Birmingham).—*Queen-Cells Cut Down.*—Both cells at an advanced stage contained a developing queen, but another queen, in a still more advanced condition, came into existence first, with the result that the young queens have been destroyed, as is shown by the holes in the side of the cells. Queens always hatch out at the bottom or mouth of the cell.

Constant Subscriber (Carlisle).— *Suspected Foul Brood.*—There is nothing of a worse nature than pollen and honey in sample of comb sent.

*** *Several Letters and Queries must remain unanswered till next issue, owing to the absence of the Editors at the "Royal" Show.*

Special Prepaid Advertisements.

Twelve words, Sixpence; for every additional Three words or under, One Penny.

NATURAL SWARMS or Prepared ones, June, 10s. 6d. Rev. Jarvis, Coleford, Glos.

HEALTHY STOCK and HIVE, with two section racks, 25s. F. Munton, 23, Caxton-road, London. W 3

BEES.—NATURAL SWARMS, 10s. 6d. each. Boxes to be returned. E. Long, Fulbourne, Cambs. W 2

STRONG, Healthy SWARMS, headed by prolific queens, 10s. 6d. each. Orders filled in rotation. Lemin, 294, Hoe-street, Walthamstow. V 79

QUEENS, Stocks, Nuclei, and Swarms. Queen raising a speciality. Eleventh season. Address, Rev. C. Brereton, Pulborough, Sussex.

SWARMS, 10s. to 12s., for cash. Packing free. Satisfaction given for years. Mrs. Kime, Mareham le Fen, Boston. V 93

WANTED, CARNIOLAN QUEEN, pure bred, fertile. Address, stating price, Mr. Haansbergen, Woodlands, Consett. V 100

PURE NEW EXTRACTED HONEY in 1-lb. screw cap bottles, and 9 lb. tins. Any quantity supplied. Blacklocks, Sycamores, Lydd. V 99

BEES. STRONG JUNE SWARMS. Pure Wiltshire. 10s. 6d. each cash on rail. Giles, Cowsfield Apiary, Salisbury. V 84

GOOD SECOND-HAND EXTRACTOR (Neighbour's 25s.) for 12s. 6d., on rail. Two new smokers, 2s. 9d. each, post free. Bunney, Swansea. W 6

STRONG NATURAL SWARMS, with '97 fertile queen, 12s. 6d. Good second swarms, with '98 queen, 8s. 6d. Travelling cases, 6d. Guaranteed perfectly healthy. Woods, Normandy, Guildford. W 5

WANTED, 1890 and 1891 BOUND or LOOSE VOLUMES *BRITISH BEE JOURNAL*; also *GLEANINGS* for 1897. State price. Penn, Snowdon House, Aberystwith. W 4

Editorial, Notices, &c.

THE "ROYAL" SHOW.

BIRMINGHAM MEETING, 1898.

The few hurried words, written last week from Birmingham, just sufficed, as intended, to indicate the position on the opening day of the Show, and give the complete list of awards on p. 241. A more leisurely inspection of the honey department afterwards, however, enabled us to realise the enormous difference it would have made had bee-keepers been favoured with even ten days of real bee weather before the time arrived for packing exhibits off to the Show. To put the matter in another way: about 70 per cent. of the entries for honey of the current season were perforce withdrawn because the little labourers, on whom we depend for our produce, were as completely debarred from working as if a general lock-out had occurred. The entries in nearly all classes of the bee department were less numerous than last year, a fact easily accounted for in view of the untoward weather in May, which literally took all the heart out of any but those bee-keepers of the right sort, who, like Mark Tapley, wanted to "come out strong" under adverse circumstances.

The honey display may, on the whole, be designated as a small but—under the existing conditions—a good one, and it would be well if bee-keepers—who are sometimes a bit disposed to make comparisons between the "Royal" and their own shows, to the detriment of the former—would just bear in mind the difference between a show where exhibits are "due" on the ground on June 18, and one held in July or August. It is all very well to say, "Why, we could beat this for honey at our own show!" But how it alters the complexion of the case if we inquire, "What could you stage to-day in the shape of '98 honey?" And so, as we observed on p. 241 last week, all honour to those who did their best to make the Show at Birmingham so good as it proved.

Beginning with the class for *Collection of Hives and Appliances* (341), Mr. Meadows again took 1st award, and Mr. Varty (who was 3rd in '97) 2nd prize, Messrs. Walton & Co. being placed 3rd. We hardly think that even the exhibitors themselves would dispute the awards in this class; but it is, to say the least, disappointing to have only three exhibits staged for three prizes in so important a class as this. We can quite understand the axiom as slightly altered by appliance manufacturers: "*business* first, *showing* afterwards," and are only too pleased to find business so profitably engrossing. But should it not be "good business" to be winning prizes at the premier show of the year?

Class 342. *Most Suitable Outfit for a Beginner in Bee-keeping.* Price not to exceed 30s. (8 entries). We were very pleased to see this new and important class (now introduced for the first time) well represented. Messrs. Lanaways' exhibit, which secured 1st prize, consisted of a hive—the value of which in itself had no small share in securing first place—a useful honey extractor, along with bee-smoker, slow-feeder, veil, quilt, queen-excluder, and copy of Cowan's "Guide-Book." Price 30s. The whole making very excellent value for the money.

Mr. Meadows took 2nd award with an outfit consisting of his well-known "Cottagers" hive, with rack of twenty-one 1 lb. sections fitted with foundation, cylinder-extractor, smoker, superclearer, regulating feeder, veil, travelling box with one dozen screw-cap honey jars, and copy of "Modern Bee-keeping," price 30s—each and all excellent in their way.

Mr. Greenhill was awarded third prize for an outfit in which was included a good hive (in which the foundation was wired in), box of shallow-frames, and a rack of sections, besides a Bingham Smoker, slow feeder, veil, queen-excluder, and box of naphthaline. Price 30s.

Next came the Highly Commended (and Reserve No.) exhibit of Mr. Varty, which ran the third prize lot very close, so far as value and merit. It consisted of hive with frames of foundation wired in; box of shallow-frames, also wired; rack of sections, smoker, tin feeder, queen excluder, super clearer, wire veil, quilt, spur embedder, bottle of Grimshaw's Apifuge, and Cowan's "Guide-Book." Price 30s.

Mr. Varty's second exhibit in this class, which also got a "H. C.," we did not think so highly of as the first one, though it was fairly good.

The other "H. C." went to Mr. Hutchings who, alone among the competitors, priced his outfit at 25s., or 5s. below the maximum. It embraced a hive with two surplus-chambers, viz., a box of shallow frames and a rack of sections; there were also a smoker, rapid feeder, veil, quilts, one dozen spare standard frames, twenty-five sections in flat, and queen excluder.

Regarding the Class as a whole, it was readily seen that "Outfits," in which no honey extractor was included, stood a poor chance against those where this almost indispensable appliance was provided. But as a first effort by way of inducing manufacturers to show beginners what it costs to start bee-keeping, it was very satisfactory, and no doubt the Class will be continued in future exhibitions.

The class for *Observatory Hives* (343) was rather poorly filled, only three exhibits being staged and of these one of the best was rendered ineligible for competition in consequence of not filling the requirements of the schedule. The exhibitor had evidently made an attempt to get over the difficulty by a rough impromptu arrangement, but it only partly succeeded.

Some excellent and most useful hives were shown in class 344 for *most complete hive for*

general use. Indeed, several of the exhibits so nearly approached each other in completeness and general excellence that no one can afford to rest on their laurels, but must be "up and doing" nowadays if they would get in front. Mr. Meadows' hive, which took first prize in this class is a case in point, for with so much anxiety on the part of some bee-keepers to be able to prevent swarming at will, the arrangement of a sliding chamber below brood-nest with this object is a tempting attraction. Without saying that this type of hive will in the future be adopted as the hive for general use, none will grudge it a fair trial in order to find out by practical experience what it is really worth.

Mr. Meadows' hive has a loose outer case, and the deep sided stand is ingeniously utilised for holding a box of shallow frames, which slides in and out at back as a non-swarming chamber, so that the top bars of its frames form the floorboard of the hive body when in use. The same space under brood-nest is also used for rapid feeding below with almost no disturbance at all. The same feeder can, however, be used above frames if desired. These and many other good points well earned for it the premier award.

Messrs. Lee & Sons' hive, which took second prize, was also a most excellent one, and will be remembered as that shown at the conversazione of the B.K.A. in March last. The necessary ventilation for preventing swarming is here secured by a floorboard made to fall in front to the extent of about 2 in. by means of a thumb-screw working under the hive, so that even the most timid lady bee-keeper can move it up and down quite easily without risk of stings.

The third prize went to Mr. Greenhill, for a very good non-swarming hive, a model of which we remember being shown at the Conversazione mentioned above. This, like the first prize hive, has a sliding floor, below which is inserted from the rear a box of shallow frames fitted with starters of foundation, embodying the same principle as in Mr. Meadows' hive, but with the additional advantage of providing a second entrance for use until the bees are accustomed to the lower one only. We hope that a fair and full trial will have been made of these hives before the season is over, and will be glad to report results in our journals.

Of the other hives in this class noticed by judges, we may mention Mr. Varty's "H.C." (and reserve number). A good hive, but fitted with frames a bit too rough to please one's eyes in these days of machine-made accuracy and finish.

Class 345. *Complete Frame Hive for Cottagers' Use.*—This, too, was a good class, first prize hive being a marvel of completeness at the price (10s. 6d.). Among its other features the *Louvre lift* is quite new to us, and secures not only ventilation but easy travelling stages for the bees over the whole floor space, instead of at the sides only as in other "lifts." As a hive for transit by rail or road, or for taking to the moors, we know of none better. The method of binding hive and surplus chambers to floor-board, and the whole firmly together, by the device at side, secures perfect rigidity and ample ventilation by simple means. The exhibit includes a ten-frame hive, box of shallow frames, deep lift, and a roof that allows of tiering hives on each other for travelling together, with a reversible entrance and a hinge to alighting-board, which folds up for the journey.

Mr. Meadows also took second prize with a hive priced 8s. 6d. Not so complete as some others in the class, but better value for the money.

The third prize went to Messrs. Lanaway, for a good hive holding ten frames, and dividers with a deep lift arranged with loose sides, enabling it to be converted into a surplus-chamber when desired, and which—by inverting—slips over body-box to serve as an outer case for protection in winter.

In the class for *Honey Extractors* Mr. Meadows met with no opposition, and consequently carried off all the available prizes.

The honey classes, which follow, call for no special comment. That the current season's produce was sparsely represented goes without saying, but thanks to a few ardent bee-keepers, headed by Miss Gayton and Miss Cooper, along with Messrs. W. Woodley, R. Brown, G. Wells, A. Twinn, Jno. Berry, E. C. R. White, and J. H. Wooton, as prize-winners in the several classes, we *did* see some honey of 1898 after all, and were very pleased to do so.

In the miscellaneous classes some most interesting exhibits were staged, first among these may be mentioned Class 358, for *Useful Inventions Connected with Bee-keeping.* The whole of the 11 entries in this section were staged, though one arrived at the show-yard, unfortunately, too late for judging. The first award went to Mr. Dixon for a rack of sections with no bee-ways, and of the width adopted as most suitable for working with the new cleated separators. Those in the rack referred to were of Messrs. Root's make, as were the sections themselves, so that the idea promulgated by that firm ran no risk of miscarrying in practice by wrong or imperfect measurements. The certificate of merit was given to Mr. Garner for a rack of the same sections, fitted with the exhibitor's new registered dividers or separators. These are of tin, and well known to our readers by Mr. Garner's advertisement, which has appeared in our pages for some time past. A season's trial will tend to show how the two styles of separators compare so far as securing the end in view. Messrs. Lee & Son got a "H.C." for each of their very useful methods of fixing foundation in frames shown at the B.B.K.A. conversazione in March last. Of the other exhibits not noticed by the judges, we must refer to the double hive, for which a patent

has been applied for. We took some trouble to go somewhat carefully over this hive, because two exhibits of exactly the same type—one a single, the other a double hive—were staged by the inventor and exhibitor in Class 344, and it was to a practical man almost distressing to see the amount of thought and care bestowed on the elaboration of details, which most bee-keepers would at once declare to be unworkable in practice. The main idea which bee-keepers have—or should have—in view when designing a hive for general use, is simplicity, but in this case we had a mass of complications carefully thought out in the study, no doubt, but which would considerably impede, if not prevent, easy manipulation when working with live bees. It would be cruel kindness to say otherwise, and if the inventor could work such a hive, we couldn't; nor do we lack practical experience either.

A hive entered for competition by Mr. Trebble unfortunately arrived at the show too late for judging, and was staged for exhibition only. We were sorry for this, because the hive, undoubtedly, has good points as a "non-swarmer," and we should be glad to get reports from those who have had practical experience of it. It has the non-swarming chamber, fitted with four shallow frames, fixed in front of the entrance, and the bees pass through it in reaching the brood chamber. This shades the entrance effectually, while a dropping floor of perforated zinc about 11 by 9 in. affords plenty of ventilation in hot weather. The method of lowering and raising this dropping floor is effective and ingenious, as is also the way in which the non-warming box is affixed to the hive entrance by a half-dovetail cut in the wood. A sheet of glass laid on the top gives a view of the frames when desired by simply raising the hinged lid, and if the bees are building in these frames they may be lifted out and placed into surplus-chambers above brood-nest when desirable. We thus see that, in principle at least, this hive secures the chief disiderata in the prevention of swarming, viz., room, shade, and ventilation.

(Remainder of Report next week.)

BLACKBURN SHOW.

A WORD TO HONEY EXHIBITORS.

Adverse weather for some time past has caused bee-keepers to be naturally shy in making entries at the earlier honey shows, owing to the prevalence of "empty supers." We are therefore glad to see that the date for closing entries at the above important show—where liberal money prizes are offered for honey of 1898—has been extended (as announced in "Shows to Come" last week) till July 1, so there is still time to post an entry by to-day's post, an opportunity we hope readers will avail themselves of (see advertisement on front page).

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

APICULTURAL NOTES.

UNITING BEES.

[3303.] The weather here continues unfavourable for honey production since my last "notes" of June 13. Until a few days ago it was dry and dull, with cold winds from all quarters in turn. Several intervening frosty nights also did considerable damage, especially to the potato crop on the night of the 14th. Thunder storms, too, accompanied by heavy rain during the last few days have interrupted hay work, and in some instances knocked down the corn. In other respects the rain has, no doubt, done good, but everyone is now wishing for fine, bright weather, seeing that haymen and bee-men (and bees too) are at a standstill. Most of my stocks are well up in supers, but while brood rearing is kept going at a high rate—many combs being filled with brood right up to the top bar—honey gathering goes on slowly. Some of my strongest lots are on from twelve to fifteen frames of brood, and where only one surplus-chamber is on, extra room will have to be given at once to accommodate the increasing populations. Stocks, too, which a few weeks ago were weak, are now ready for supers. There is this year with bees in this part a marked disinclination to swarm. I have had none up to the present, and have only heard of a few odd swarms in the neighbourhood. In a few cases I found queen cells started, although the hives have been crowded for several weeks, whereas last year the bees swarmed with plenty of room in the hive, sometimes almost before queen-cells were started.

On visiting my out-apiary last week, I was agreeably surprised at the progress made, in spite of adverse weather, since I saw the bees a fortnight ago. Frames of foundation in many stocks had been built out and filled with honey and brood from top to bottom, many colonies requiring extra room. A few stocks which were crowded on twelve frames had started queen-cells. The main part of the first crop of sainfoin is now cut, but we have six weeks or more before the second crop is over, and so with favourable weather good results may be confidently anticipated. Matters are somewhat different at my home apiaries in this respect, but even here there is still time for a good honey season, if the weather improves at once. In any case, however, the season will be a short one, so the best use must be made of the time while the honey income lasts. Plans carefully thought out and set in motion a

month ago will now need modifying, or fresh ones be adopted, to suit the altered circumstances.

In the last week's B.J. a querist, "D. V., *Dunaskin*," (2054, page 247) asks the Editors' advice as to using in the brood-chamber combs rom infected hives after "spraying" the combs. No doubt the idea was not to sacrifice the combs if it could be avoided, but if "D. V." could see some of my hives in which there are four or five new combs built from foundation during the last few weeks, and note the splendid condition of the said combs, I feel sure he would never again use an old comb, not even from a healthy hive much less from a diseased one.

Uniting Bees.—Referring to 3301 (page 244), I can assure "A. A. H." that the method of uniting bees, as described in my last notes, is absolutely safe and reliable. I have united scores of colonies without a single failure, and have shown the plan of doing it to bee-keeping friends, many of whom have practised it for years with equal success as myself. I have often wondered why so much fuss should be made about "uniting" when the whole thing can be done so simply and quickly. There are two conditions under which bees will work amicably and peacefully—viz., both lots must be combless—that is, both lots must be shaken in front of the hive they are to occupy, and made to run in altogether, and thus get mixed up. This method I sometimes adopt when uniting a cast or a driven lot of bees to a hive that is queenless or deficient in bees.

The other condition is that both lots must be on combs. No fighting then occurs, simply because there is nothing to fight about. I stated on page 232 that I neither flour the bees, alternate the combs, nor cage the queen when "uniting." If asked why I don't do either of these three things, my reply is: In the first place I object to having my eyes and nose blocked up with flour dust; and I imagine that the eyes and breathing apparatus of the bees are as sensitive as my own are. I therefore, from a humane point of view, object to smothering bees with flour in this way. Secondly: I don't alternate the combs because I consider it unnecessary to do so, and to my mind it is positively objectionable. I consider alternating the combs has nothing whatever to do with successful "uniting." The reason bees unite when so treated is—to my mind—because the bees are each on their own combs, and have no disposition to quarrel. But mixing up the combs disturbs and excites the bees, and thus brings about the risk of the queen getting "balled" and lost. But with the system I advocate, there is no risk of the queen being lost or injured, everything being done quickly, and with such little disturbance that the bees can scarcely perceive that anything unusual has taken place. The queen being surrounded by her own progeny renders caging unnecessary. When uniting, I give at the entrance of hive just sufficient smoke to cause the bees to run from the floor board on to the combs. Then puff a little smoke under the quilt—not enough to alarm and make them run all over the hive, while sufficient to prevent them taking wing. Then lift out the combs in the manner described on page 232. Uniting bees is by me regarded as one of the most simple and easy operations in connection with modern apiculture, and if properly done it is no more trouble than putting in so many empty combs. If any reader wishes to test the matter on a small scale, he can do so by taking a comb with adhering bees from one hive and placing it in another in the manner described. This should be done in the evening when the bees have ceased to fly, and there will not be a single bee killed, unless the operator accidentally crushes one. — ALLEN SHARP, *Brampton, Huntingdon.*

THE SEASON'S PROSPECTS.

[3304.] I am not going to take want of sun and warmth for my text just to have a grumble. This would only add to the load of those who feel bad weather to be a burden. We are too apt to regard the bad samples of weather as spoilers of our happiness and prosperity, and *vice versâ*. If we could bring ourselves to look more upon our possessions as given us for a time to make the best use of, instead of looking upon them as permanent possessions, we bee-keepers should feel less disappointment through what we regard as losses and crosses in shape of bad weather and a poor harvest. We had five grand days between June 16 to 20, and the way that the bees rushed in with their loads and out for more was a treat to see! Supers filled rapidly, while swarms a fortnight late were numerous and very large. Since the 20th we have had thunderstorms, dull, showery days, cold nights, with hardly a bee to be seen. The mild winter caused the clovers and sainfoin to make an unusually strong growth, and this strong growth was further encouraged by a wet spring, until at the present time clovers and sainfoin are grown to twice their usual height. This exceptional growth prevents a large number of trusses of bloom coming to perfection, and the severe frost which continued all through April blighted others, but still there is an abundance of bloom for the bees on the closer-growing Dutch clover. Everything is quite a fortnight late. This is in the bees' favour if the weather improves later. Willows, that usually flower early in April, were not in flower this year till May, and the whitethorn was in flower with the earliest of the white clover in June. All kinds of insect pests and blights are flourishing this season. I would especially call attention to the fact that, though we have had so much rain, a large quantity of honey-dew is forming upon or exuding from the leaves of

trees ; it is most noticeable on the leaves of the oaks here ; my attention was first called to it by the bees visiting the trees. If the uncertain weather continues, the bees will take every opportunity to visit any trees near their hives for honey-dew, and this will be a source of trouble to the bee-keeper when extracting honey or grading his sections. My experience has been, previous to this season, that honey-dew is to be expected in dry seasons. I suppose honey containing a noticeable percentage of honey-dew would be considered as adulterated if it were analysed ; but extracting honey-dew may be avoided by examining the combs before unsealing, and allowing the patches of honey-dew to remain sealed until the combs are given back to the bees for cleaning up.

I am sorry to see from "Reports and Queries" in the B.B.J. that foul brood is more prevalent now than it has been for two or three seasons. I have noticed in past years that if we have an indifferent season the disease makes more headway. A continuous income of new honey keeps up the prosperity of the colony, and certainly appears to check the progress of foul brood. Bee-keepers do not appear to realise the usefulness of naphthaline as a preventive of foul brood. When living in another district I had foul-broody stocks within a small radius on three sides of my apiary, but by care and a regular use of naphthaline in all my hives, I kept the bees free from this scourge, although I handled most of the foul-broody stocks and assisted in their destruction or cure. And I continue to use naphthaline regularly to this day.—W. Loveday, *Harlow, Essex, June 27.*

BEES IN SOUTH WALES.

A LADY BEE-KEEPER'S REPORT.

[3305.] I have been much interested in the B.B.J. for the last few weeks, and in reading how other bee-keepers are managing. I put my supers on in the beginning of May, and have since, on June 4, taken off 15 lb. in sections from one hive, and there are now some more sections ready sealed. I can't see that any one has been before me. This hive swarmed on May 18, and again on June 10. My other hive has not yet swarmed, and the bees are not busy in the supers. I don't know why the bees in first-named hive swarmed in spite of plenty of room in supers. However, the swarm hived on May 18 has drawn out and partly filled ten frames, and as I mean to work this hive for extracted honey I have to-day (15th) put in a sheet of excluder zinc over brood-nest and full frames of foundation. I may say I work my bees entirely without help, and wear a veil, but no gloves. I find I can't work so well in gloves. I have not been stung this year, and hope to escape, as when stung it affects me badly. I am starting two other ladies with bees. I don't know how they will get on.—C. B., *Tenby, South Wales.*

LARD BUCKETS FOR BEE-HIVES.

[3306.] I should like to endorse Mr. Bellairs' suggestion in B.B.J. of June 23 (page 243) *re* American lard tubs (or buckets, as they are called here). They make excellent hives or supers for run honey. I have used and recommended them for several years. I cut an entrance in the rim of one of the widest staves the whole width, ⅜ in. deep ; bore small holes at sides for sticks to support combs, which, when the honey is taken, can be drawn out if a small portion is left projecting beyond side for tweezers to take hold. Then turn up on a floor-board as you would a skep ; bore a 1-in. hole through centre of top. Now it is inverted and the thing is done. The hole serves for feeding, or supering by a small skep or large flower-pot without alighting board, or sections with an adapting board. They are excellent, too, for sending stocks a distance—turned upside down and tied over with cheesecloth.—Alsford, *Expert, Blandford.*

SWARMING VAGARIES.

[3307.] I am only a novice in bee-keeping, but I think my bees are up-to-date practical jokers. I began in May last year with four stocks that had been born and bred at Hornsey Rise, N. ; one, being very weak, or queenless, soon became *non est.* The last week in May, 1897, I had a swarm and cast from one of the other hives, after which the old hive gradually became extinct. The swarm was placed in straw-bodied frame-hive, with door at back. On Wednesday, April 27, this year, there were apparently two swarms from this same hive (about midday). Two hours after, on looking at both skeps I found them empty, bees having returned to old home. The following Saturday, April 30, also about midday, they swarmed again, this time on rhubarb-leaves, close to hive ; got them safely into skep, and in about half-an-hour a boy came into my shop saying, "Your bees are on a tree in next garden, sir." These I hived in skep, but in about an hour all had again returned to the parent hive. On Sunday, May 8 (the first warm day after Saturday, April 30), another swarm came off, which, with a neighbour's assistance, I managed to hive in a skep as before, but by two o'clock they *too* (for the third time) returned to the old hive. On Sunday, May 15, at 8.30 a.m., swarm again on gooseberry bushes in a garden across the road. This I secured, having to use two skeps, they were so awkwardly placed—those in the second skep transferred themselves to the first skep, showing I had secured the queen at first, though I was afraid not. This lot retained possession of their new house, and I placed them at night in a bar-frame hive. On Monday, May 23, another swarm, and on Sunday, May 29, still another. All this swarming taking place from the same stock hive, viz., the swarm of last year. Now, can any correspondent beat that lot?

The last cast (May 29 swarm) is still in the skep. 1. How had I better proceed to place them back again in hive from which they swarmed? It is not a strong cast, and I do not wish to increase stock. 2. There has been fighting going on with the second swarm, one cannot call it robbing, for they can have nothing to rob yet, for I only put strips of foundation in the frames. What is the best method to adopt to put a stop to this fighting, or robbing? 3. I noticed the other day a bee dragging something out of the hive of *this year's* first swarm, and flying off with it. It was white, and looked like a grub about ¾ in. or 1 in. long, and as thick as a straw. What could it be? I did not expect the bee to fly off with the grub, or I should have secured it. 4. Is there an Association expert in this neighbourhood?—A. M., *Boxmoor, Herts, June* 20.

[1. With regard to the last cast, seeing that the bees have been in possession of skep since May 29, they will require to be driven and united to original stock, using flour as a pacifier. It should be ascertained, however, which of the stocks has a laying queen, probably both by this time. If one has a virgin, she should be removed before uniting, as, unless this is done, the laying queen (if there is one), will be destroyed. If, however, both contain virgins, or laying queens, the matter as to which shall be retained may be left for decision to the bees themselves. 2. Narrow the entrance to a single bee space, leave undisturbed, and under no circumstances should the bees be fed. 3. We cannot say. 4. Write E. H. Young, Secretary, B.B.K.A., 12, Hanover-square, W. He can enlighten you on this last point.—EDS.]

Queries and Replies.

[2057.] *Removing Skeps from Frame Hives after Transferring.*—Acting on advice given in your useful little paper, I placed a very strong stock of bees in a skep on the top of frames of a new hive on the 7th of last month. I should be glad to know:—1. How I can ascertain when the brood will be all hatched out from above, in order that I may remove the skep and place super of sections on in its place? Also, 2. How should I set about the removal of skep when ready for taking off? As this is my first year of bee-keeping, I shall be grateful for your valuable advice.—D. L. R., *Newport, Salop, June* 21.

REPLY.—1. The date when brood will be hatched out is, of course, governed by the time the queen took possession of the frame-hive as a brood-chamber; when that took place the worker-brood would all have left the cells by the twenty-first day afterwards. 2. Raise the skep gently on one side, give a puff or two of smoke, and lift it on to a loose board for removal. Take it into an outhouse or any place indoors away from the hives; invert the skep in a bucket and cover with a light cloth. By removing the cloth at intervals, the bees may be allowed to escape and fly back to their old home. If you are sufficiently expert, the bees may be driven into an empty skep and thrown down in front of the parent hive.

[2058.] *Age when Queens are at their Best.*—Kindly tell me in next issue of B.J. (1) How long a queen should be retained? (2) What is the most simple way of replacing an old queen by a young one? I give my experience below:—No. 1 hive is my original stock, and as a swarm came away from it in 1896, I presume it had a young queen installed that year. It has done fairly well. No. 2 was the swarm from No. 1 in '96, and a swarm issued from it in '97, so I presume it has a queen barely a year old. It has done best of the three hives. No. 3 is the swarm of '97 from No. 2, and, for aught I know, the queen may be the old one from No. 1. Still it is doing fairly well in brood and is in the supers, but not equal to No. 2.—T., *Chester, June* 14.

REPLY.—1. Queens are at their best—so far as profit is concerned—in their second season as mothers. Good queens frequently do well for three years, but after two years' breeding queens are generally considered as past their prime. 2. Removing the old queen and twenty-four hours afterwards introducing a young one by caging her for twenty-four hours preparatory to releasing.

[2059.] *Spacing Frames in Hives.*—I have a new "W. B. C." hive, into which I intend putting a swarm when I get one from my other hive. I see in "Guide Book," page 44, that "to prevent production of drone brood" we are told to place frames as per fig. 20 B. I therefore ask, shall I space frames as A or B, as shown on page 44? Your advice will greatly oblige, as I do not know if drone-brood is required with new swarm or not.—W. T.

REPLY.—In reference to non-production of drones the "Guide Book" reads thus:—"In fig. 20 A, they (the frames) are placed at the usual distance from centre; but *if it is desired* to prevent the production of drone brood," &c. The italics are our own, but the point is to use the narrower spacing when there is a chance of producing undesirable drone-cells in the frame. Now, it is well known that a swarm usually builds almost wholly worker-comb the first year after being hived. There is no need for spacing the frames at abnormal distances apart. And (for beginners especially) it is far best to defer these special operations until experience has been gained. We ask to be excused for using your own initials, instead of the letters "W. B. C." as a *nom-de-plume*, for obvious reasons.

[2060.] *Claiming Runaway Swarms.*—Would you please advise me in the following case:—On June 17 I was called to assist in hiving a neighbour's swarm of bees at 11.30,

and before 12 they were hived, and the bees appeared comfortably settled, with an umbrella over the hive to shade it, after propping it up on one side with a brick. A boy was set to watch until the father came home from work, but at 3 p.m. the swarm made off, the boy following as well as he could, but the bees outdistanced him, and they were lost. At 5 p.m. the father arrived home, and after hearing what had occurred he went in the same direction taken by the swarm for about half a mile distant, and found a hive known to have been empty with a swarm in it, to all appearance not fully settled down. The owner of the hive admitted there was no stock of bees in it before, but denies the right to it of the man who lost the swarm, and refuses to allow them to be touched or removed. 1. Do you think the man has a claim to the bees, and, if so, what should he do? 2. Can you give the probable cause of the bees flying away after hiving? 3. Is there any law to prevent persons keeping hives open in their gardens so as to attract bees to them?—W. R., *Southam, June* 19.

REPLY.—1. The rightful owner of the swarm loses his "right" unless the bees were kept in sight from the time they left the hive till they entered the premises of the person who now claims them. 2. It is not an uncommon occurrence when swarms are not hived by a competent person. 3. No, except the moral law which should prevent any honest man from setting a "decoy" to attract bees not his own.

[2061.] *Loss of Queen—Smoke and Honey.*—On May 19 last I united a queenless lot of bees in a straw hive to a stock in a frame hive, with a fertile queen. When I examined them about three days later the queen had disappeared, and there were no eggs in any of the cells, and on looking in front of the hive I found the queen lying dead. As there were a good lot of bees in the hive, and I had no other stock I wished to unite them to, I sent away for a queen, but did not get one till June 11. Before putting the cage with queen beside them, I gave the bees a frame of hatching brood, as their own brood was all hatched out except two or three cells, but they had three queen-cells built, and one of them contained a tiny grub, not long hatched. 1. Where did the egg come from, as they had no queen for three weeks? 2. Could a worker-bee have laid the egg, and would it have turned out a drone? 3. Would the smoke and soot that falls in a mining district, and coming in contact with flowers on which bees work, affect the flavour or quality of the honey? 4. Do bees ever gather honey from poisonous flowers, and would the honey be poisonous?—J. R., *Lanarkshire, June* 20.

REPLY.—1 and 2. The egg was probably laid by a fertile worker, and as such it would have only produced a drone. 3. A smoky district will undoubtedly deteriorate the quality of the honey gathered therein. 4. Yes, on rare occasions; but the amount is so small as to be quite harmless.

[2062.] *Queen Raising.*—I am for the first time trying to raise queens, but am a little hazy over one or two points. I have seven rather strong stocks. One is very strong, quite twelve frames full of nearly all worker brood out of fifteen. I took out one outside frame, and inserted in middle an empty frame of clean worker comb. On the fourth day from inserting that frame I propose artificially swarming, so as to unqueen that stock, and add, perhaps, a few frames from other stocks. Then on the tenth day I propose forming nuclei from the swarmed stock, and after cutting out queen-cells, fit and tie them into one of the frames of the respective nuclei (one queen-cell to each). Will that be right? I have the latest edition of "Guide Book," it is much more lucid than some other books I have read, for I can understand the "Guide." But please answer my query above, and then I shall be quite sure. 2. By "ripe" queen-cells I conclude are meant cells that have been sealed three or four days; is this so? All other details as in "Guide" I seem to be quite clear about, but I ask you to please look up page 10 of "Guide Book," and refer to "Metamorphoses of Bees." In last line of the tabular matter you will see this "11th4." 3. Is that a printer's error? 4. If a frame with half-sheet of foundation is inserted in middle of a strong hive, will bees finish the comb with all worker-cells, say in May and June?—A. H., *North Bucks, June* 25.

REPLY.—1. Unless you thoroughly understand the method of forming nuclei (which we fear you do not) it is far better not to try it, but if you can keep the several nucleus hives supplied with bees all will probably go on right. 2. No; a "ripe" queen cell is one that is nearly ready to hatch out, say, six days after sealing. 3. It is a printer's error, but very few people will fail to see that 14th was intended. Thanks for calling attention to it. 4. Drone-cells would be sure to follow.

Echoes from the Hives.

Farnham, Knaresborough, Yorks, June 27.—The weather here is very unsettled and bad for bee-keepers, whose hopes had been raised by the abundance of bee forage and the fine weather we had just had to get them into storing condition after spring stimulating was discontinued. I had wintered several small lots with young queens on from three to five frames, only partly built out, to replace any queens lost during winter, but every stock had this spring a laying queen. I have not yet had a swarm, and am giving plenty of "room in advance," having in all twenty-three racks of sections on. In some there are now sealed sections ready to remove. In fact, all

we want is a spell of fine honey weather, and we soon shall have full supers. On June 8 a swarm went into a hollow tree about a mile away from here, so I went down armed with all requirements for taking them about 7.30 p.m. I found the bees in a very awkward position ; I had then to cut a way to get them out with a chisel and hammer, and as elm is hard, it took me till 5.45 a.m. on the 9th before I had the bees tied in my skep. It is needless to say I was tired of being up a tree working by candle-light, for it was dark long before I had done ; but for my labour I got a large swarm with a fine hybrid Ligurian queen, which has now filled eight frames with brood, and the stock is now quite ready for supering. I found plenty of old combs of former swarms in the tree that had young bees (dead) capped over, probably chilled when the bees were hungered out ; I cleared it all away.

Swarms were very plentiful among skepists and not care bee-keepers, and others that had not attended to their bees last year, and they are plentiful.—C. B. ELMHIRST, Hon. Sec. Knaresborough and District B.K.A.

Bee Shows to Come.

July 1, at St. Neots.—Hunts B.K.A. Bee and Honey Show in connection with the Agricultural Society's Show. **Open Class** for single 1-lb. jar extracted honey. Schedules and all particulars from C. N. White, St. Neots, Hunts.

July 6 and 7 at Hanley, Staffs.—Horticultural Fête. Medals and liberal prizes for honey. Schedules now ready. Apply J. B. Barrow, Town Hall, Hanley.

July 14, 15, and 16, at Witton Park, Blackburn.—Bee and Honey Show, in connection with the Royal Lancashire Agricultural Society's Exhibition. Open classes, with liberal prizes for twelve 1 lb. jars and twelve 1 lb. sections of new honey. Also classes for same open to county only. Lectures in bee-tent each day, under the auspices of the L. & C. B.K.A. Jas. Birch, secretary, R.L.A.S., 34, Castle-street, Liverpool **Entries close July 1.** (See Advt. on front page.)

July 14 and 15, at Lincoln.—In connection with the Lincs. Agricultural Society. Schedules for the Bee Department from R. Godson, Hon. Sec. Lincs. B.K.A., Tothill, Alford.

July 19, at Wellington (Salop). Wellington and District B.K.A. First annual show of honey, bees, and appliances in connection with the Wellington Horticultural Society's Show. Seven open classes. Entry forms, &c., from R. Holland, Hon. Sec., Haygate-road, Wellington, Salop. **Entries close July 5.**

July 20, 21, 22, at Roundhay, Leeds.—Yorkshire Agricultural Society's Show. Liberal prizes for hives, honey, &c.

July 30.—In connection with Helsby (Cheshire) Flower Show, three open classes and single jar competition. Schedules from Dr. Briant, secretary, Helsby, Warrington. **Entries close July 23.**

August 1, at Beddington, near Croydon.—Surrey Bee-keepers' Association Annual Show, in connection with the Beddington, Carshalton, and Wallington Horticultural Society. Additional open classes. Increased prizes and medals. Schedules from F. B. White, hon. secretary, Marden House, Redhill. Entries must be made before July 16.

August 1, at Melton Constable Park.—North Norfolk B.K.A. Annual Show. Three open classes. Schedules from C. J. Cooke, hon. sec., Edgefield, Melton Constable. **Entries close July 25.**

August 1 and 2, at Althorp Park, Northampton.—Northants B.K.A. Honey Show, in connection with Horticultural Society's Show. Several open classes. **Entries close July 26.** Schedules and all particulars from R. Hefford, Kingsthorpe, Northampton.

August 10, at Clutton, Bristol.—Somerset and South Glos. B.K.A. Annual Show in connection with Clutton Horticultural Society. Six open classes. Schedules from Miss H. Dawe, Long Ashton, near Bristol.

August 10, at Marlow, in connection with the Marlow Horticultural Society. (Under the auspices of the Berks Bee-keepers' Association.) Show of Hives and Appliances, Honey, Bees Nine classes. Excellent prizes offered. Schedules from A. D. Cripps, Esq., Hon. Sec., High-street, Marlow. **Entries close August 6.**

August 13, at Dumfries.—In connection with "Band Contest," the South of Scotland B.K.A. will hold a honey show as above. **Two open classes for "Three's."** Schedules from Mr. J. Kerr, Hon. Sec., Douglas-terrace, Dumfries. **Entries close August 6.**

August 13, at Stoke Prior, near Bromsgrove.—Honey Exhibition in connection with the Stoke Prior Horticultural Society. Seven open classes. Three "Gift" classes of two 1-lb. sections of honey, two 1-lb. jars extracted honey, and single 1-lb. jar candied honey. Liberal prizes. Schedules, entry forms, &c., from Percy Leigh, "Beemount," Stoke Prior, near Bromsgrove, Worcestershire. **Entries close August 6.**

August 15 and 16, at Felling.—Northumberland and Durham B.K.A. honey exhibition, in connection with the Felling Flower Show. Schedules from T. Russell, 17, Stephenson-terrace, Felling. **Also at Gateshead, August 29 and 30.**—In connection with the flower show. Schedules from T. H. Armstrong, 111, Prince Consort-road, Gateshead. **Entries close August 20.**

August 17 and 18 at Dover.—In connection with the Dover Horticultural Society at Dover College Grounds. Additional open classes. Increased prizes and medals. Schedules from H. W. Brice, Hon. Sec. Kent and Sussex B.K.A., Dale Park, Upper Norwood, S.E.

August 17 and 18, at Blackpool.—Honey show in connection with the Blackpool and Fylde Horticultural Society, under the auspices of the L. & C. B.K.A. Schedules from C. E. Riding, Secretary, 9, Central Beach, Blackpool. **Entries close August 8.**

August 17 and 18, at Ince Hall, near Chester.—Open classes for six 1-lb. jars, three 1-lb. granulated, and single 1-lb. jar. Schedules from the flower show secretary, Ince, near Chester.

August 24, in Neston Park, Wilts.—Honey exhibition in connection with the Atworth and District Horticultural Show. Seventeen classes with liberal prizes, including single 1-lb. jar and single section, with free entry. For particulars apply to J. P. Inkpen, Sec., Atworth, Melksham. **Entries close August 20.**

August 27, at Windsor.—Windsor and District Branch, Berks B.K.A. Bee and Honey Exhibition, in connection with the Liberal Club Annual Flower Show. Schedules from J. Hyde, jun., Hon. Sec., 55, Bexley-street, Clewer. **Entries close August 18.**

August 28, at Withington, Manchester.—Honey Show in connection with the South Manchester Horticultural Society. Seven classes for honey, including open class (entry free) for single 1-lb. jar. Schedules from F. H. Taylor, Birch Fold Cottage, Old Hall Lane, Fallowfield, Manchester. **Entries close August 13.**

September 7 and 8. At the Cattle Market Derby.—Derbyshire B.K.A. Seventeenth Annual Exhibition of Bees, Honey, and Appliances, in conjunction with the Show of the Derbyshire Agricultural Society. Liberal prizes. **Eight open classes.** Schedules from F. Walker, Hon. Sec. D.B.K.A., 64, Gerard-street, Derby. **Entries close August 31.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column

NOVICE (Wallington).—*Transferring from Skeps to Frame-Hives.*—1. You cannot form a second stock as proposed by removing the skep after the brood nest has been transferred below. To take flying bees (which are almost the only ones now in

skep) to a new stand would simply result in them all going back to the old hive. 2. After removal of supers at close of the season the body of hive should be examined and if stores are insufficient the bees must be fed up for winter. 3. The only way of transferring the odd-sized combs to standard frames is to cut them out (if worth transferring) and tie them into the new frames.

P. W. B. (Isle of Man). *Swarms and Casts.*—1. It seems clear that the bees, being dissatisfied with their new location, either returned to the parent hive or flew off altogether. If the swarm "two days" after from No. 1 was the "small one," we should judge the latter was the case, and that the small swarm was a cast from the original stock. Swarms will occasionally desert hives in this way. 2. No doubt the late bad weather has delayed the mating of the queen referred to.

A. JONES (Cheltenham).—*Bees in Skep Hanging Out.*—The usual remedy when bees in skeps "hang out" is to set an "eke" below for the purpose of giving additional room and air to the bees. When honey is coming in the "room" is given above in the shape of a super or surplus-chamber of some kind.

S. H. (Cornwall).—*Bees Refusing to Enter Section Racks.*—We cannot think the comb-foundation sent is stopping work in sections. It seems of very good quality. If all the favourable conditions named still prevail, we quite expect the bees will be "up and doing" in sections when these lines are read.

I. S. S. (Hythe, Kent).—*Removing Bees from Hive Roofs.*—The operation referred to is so often performed nowadays as to be considered a simple one for any experienced bee-keeper. This being so it is hardly worth the special attention of the Bee-keepers' Association, nor does it require further reward than the cottager who rendered the help would no doubt receive at the hands of those he assisted.

H. C. (Sheerness).—*Transferring Bees.*—We regret unavoidable delay in reply, but no harm will follow, as the skep may be allowed to remain on top of frame-hive till bees have taken full possession of frame-hive below, and filled the skep with honey if they can, when it may be removed as a super. Any honey it contains must be removed from combs by means of the extractor.

INQUIRER (Hendon). *Coverings for Hives; Chilled Brood.*—1. When weather is "hot," it becomes necessary at times to remove all but one of the quilts, but so far there has been no such weather as necessitates cooling hives if plenty of supers are on. 2. Chilled brood is usually caused by bees clustering more closely on cold nights, and thus exposing the young larvæ to a temperature too low for its continued existence, therefore causing death from exposure.

G. C. (Suffolk).—*Drone-Breeding Queen.*—There is no foul brood in combs sent, but the queen is a drone-breeder, as seen by the large patches of drones hatching out in worker cells.

W. R. (Southend-on-Sea).—*Swarm Drowned.*—Judging by the sample of dead bees sent, we conclude that the skep in which they were hived has been left out in heavy rain with no protection, and in consequence the bees have been drowned. Fuller particulars might alter this view, but with no details to enlighten us we judge as above.

J. L. (Pembroke).—*Reliquefying Honey.*—Granulated honey will not "liquefy of its own accord." The jars containing it must be immersed in a pan of water and resting on something which will allow the water underneath the jar. Heat to about 150 deg. Fahr. and let it remain till the honey is perfectly clear and liquid.

H. J. (Stock).—*"Wells" Hives.*—If you intend trying a Wells hive and the system of working bees of which it is the embodiment, the best course will be to get Mr. Wells' pamphlet, giving full particulars thereof. It may be had from the author, Aylesford, Kent; price 6d.

A. HENDERSON (Ayrshire).—No doubt it was pouring syrup over the frames on the occasion referred to that caused an upset among the bees and brought about the mischief mentioned.

W. P. (Groby).—There is no trace of disease in combs sent, the dead larvæ being perfectly normal. With no details regarding the stock to guide us, we can but venture the opinion that the stock from whence the combs were taken had died of starvation a short time before combs were cut out.

C. F. C. (Edgbaston).—*Introducing Queens to Artificial Swarms.*—1. If an artificial swarm is made on the lines laid down in "Guide Book," a queen may be introduced any time after twenty-four hours has elapsed.

STAINERS (Stafford).—*Quality of Honey.*—Sample of honey sent is of good quality, both as to colour and flavour.

A SUBSCRIBER (Essex).—*Foul Brood.*—The disease in comb sent is not of old standing, but is rapidly developing. We should advise destruction both of combs and bees. See reply to C. W. P. last week.

*** *We hope in our next to clear off arrears of Replies which have accumulated owing to "Royal" Show.*

Special Prepaid Advertisements.

Twelve words, Sixpence; for every additional Three words or under, One Penny.

NATURAL SWARMS or Prepared ones, June, 10s. 6d. Rev. JARVIS, Coleford, Glos.

BEES.—NATURAL SWARMS, 10s. 6d. each. Boxes to be returned. E. LONG, Fulbourne, Cambs. W 2

GOOD HEALTHY SWARMS, 2s. 6d. per lb. HERROD, Trentside Apiary, Sutton-on-Trent, Newark. W 12

Prepaid Advertisements (*Continued*).

WANTED, WAX EXTRACTOR, second-hand. State all particulars. Approval. MR. HILL, St John's Rectory, Bungay. W 9

FOR SALE, HEALTHY DRIVEN BEES. August, 1s. 6d., September, 1s. 3d. per lb. Orders in rotation. C. H. HAYNES, Hanley Castle, Worcester. W 8

QUEENS, Stocks, Nuclei, and Swarms. Queen raising a speciality. Eleventh season. Address, Rev. C. BERRETON, Pulborough, Sussex.

IMMEDIATE SALE, Bees in Bar-framed Hives, also empty hives and appliances. Cheap. WALKER, No. 27, Hand's-lane, Sheffield. W 13

PREPARE for the HEATHER! Having filled all orders for swarms of my superior bees, could supply some swarms now at 3s. per lb. Packed free. JOHN WALTON, Honey Cott, Weston, Leamington. W 10

FOR SALE, 12 Stocks Bees in good boxes. Honey ripener, extractor, feeders, and everything appertaining to bee-keeping. For particulars apply to H. H. HILL, The Apiary, 37, East-street, Bridport. W 11

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. Neat Patterns. W. WOODLEY, Beedon, Newbury.

PRIME SWARMS of my selected strain of English Bees, all 1897 queens, carefully packed and put on rail at 12s. 6d., larger 15s. (Telegrams Chieveley free.) W. WOODLEY, Beedon, Newbury.

NEW HONEY WANTED. Clean, well filled Sections (from fruit blossoms). State quantity and price for cash, FELL, Bee-keeper, Finsthwaite, Newby Bridge, Ulverston. V 82

22ND YEAR. Good Healthy Natural Swarms with '97 prolific queens. My well known strain, 10s. 6d., 12s. 6d., and 15s., on rail, '97 fertile queens 5s., '98 fertile queens 3s. 9d. both delivered. ALSFORD, Expert, Blandford.

BRICE'S RELIABLE QUEENS. Well-known strain, one quality, one price. Mated tested Queen, 5s. 6d.; Virgins, 3s. each. Post free in my perfected travelling and introducing cage. Quality and safe arrival guaranteed. HENRY W. BRICE, Dale Park road, Upper Norwood.

HEALTHY NATURAL SWARMS, 12s. 6d. Packed free. A '98 queen presented gratis with each. Choice '98 special-raised Queens from prolific, docile, and industrious stock. Price 3s. 6d. post free in introducing cage. Virgins 2s. Satisfaction guaranteed. BEECROFT, Ashford, Staines. V 98

FOR SALE, used one season, 6 Super Clearing Boards with cone escapes, 1s. 6d. each; 3 doz. Section Crates, with hinged shutter and parallel wedge, holding 21 sections 4½ by 2, 1s. 4d. each, 15s. doz.; nailed up Standard Frames, quite new, ⅞in. or ¾in. top bars, 1s. 1d. doz., 10s. gross. H. J. WISBEY, Whittlesford Mill, Cambs. W 7

SELF-CLOSING HONEY TINS.

1 lb., 12s. gross, 1s. 2d. doz.; 2 lbs., 20s. gross, 2s. doz.; 4 lbs., 30s. gross, 3s. doz.; 7 lbs., 45s. gross, 4s. 6d. doz.

Apply to **HUNT & HUNTLEY,**

2, Bridge-street, Worcester.

A. H. YOUNG,

The Expert Southport Apiarist,

FOR

Bee Hives, Appliances, & Comb Foundation.

Best Brood Foundation, 7 sheets to the lb., 1 lb. 2s. post free, 2s. 4d. Best Super Foundation, 13 to 14 sheets to lb., 1 lb. 2s. 9d., post free, 3s. 1d. Fine Sections 50, post free, 1s. 6d., 100, post free, 2s. 9d. Fine Screw-cap Honey Jars, 2s. dozen, 23s. 6d. per gross. 9, Sefton Street, Southport.

DON'T GET STUNG,

when by using **APIFUGE** you can easily prevent it.

APIFUGE will also be found extremely useful for travellers in foreign countries where insect pests abound. Bottles 1/- post free.

S. E. CRIMSHAW, Beeston Hill, LEEDS.

J. S. GREENHILL,

(27 years with Messrs. G. Neighbour & Son)

THE COTTAGER

SOLAR WAX EXTRACTOR.

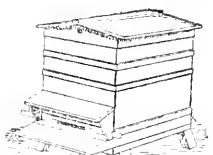
Made of Tin with Glass Cover, **6 6** each.

80, Graham Road, Wimbledon.

Illustrated Catalogue Post Free.

Mr. H. NEWSOME BAXTER

Thanks his numerous customers for their patronage, and will shortly withdraw this advertisement until further business premises have been completed.



G. H. VARTY,

Etwall, near Derby,

Awarded Prizes during 1897 for Bee Hives and Collection of Appliances at Royal Show, Manchester, Nottingham, Chester, Burton, Shrewsbury, and Derby.

Hives complete from 10/6 each

New Illustrated Catalogue post free.

TO THE DEAF.

A rich Lady, cured of her Deafness and Noises in the Head by Dr. Nicholson's Artificial Ear Drums, has sent £1,000 to his Institute, so that deaf people unable to procure the Ear Drums may have them free.—Apply, by letter, to RICHARDSON, 9, Great Russell-st., London, W.C.

SLADEN'S "V-SLIT" SECTION.

REGISTERED.

In this Section the Foundation is **better and more easily fixed** than in any other. *Vide B. B. J.*, 1897, pp. 431 and 487.

Sladen's Sections are manufactured for F. Sladen by The A. I. Root Co., and **no bundle is genuine unless it bears F. Sladen's facsimile signature Trade Mark.** Bee-keepers are **hereby warned** to refuse all imitations, which will be found to be inferior and otherwise unsatisfactory.

To be obtained from **F. SLADEN**, Ripple Court Apiary, Dover. Also from Mr. W. P. MEADOWS, Syston, near Leicester, and Messrs. JAMES LEE & SON, 5, Holborn Place, London, W.C.

Dropping in Foundation.

First introduced, November, 1895.

Editorial, Notices, &c.

THE "ROYAL" SHOW OF 1898.

(*Concluded from page* 253.)

Next in importance to the "invention" class comes that for *Instructive and Interesting Exhibits Connected with Bee Culture.* The entries were disappointingly small, only five exhibits being staged. Of these, the "Solar" wax extractor and the large glazed case samples, &c., illustrative of its uses, which accompanied it—shown by Mr. T. I. Weston—not only took an easy first prize, but formed a centre of attraction to every intelligent bee-keeper who inspected the exhibit. The interest in the contents of the case, however, lay rather in *seeing* than reading the particulars regarding them.

To enumerate the various items in something like regular order. We had (1) Mounted specimen in glass of the abdomen of a worker bee, showing the wax-pockets on the under side; (2) the actual scales of wax as extracted from the said pockets when distilled by the bee and fully ready for its use in comb building; (3) sample of wax (about 1½ lbs.) from cappings, new and old; (4) a second sample showing a portion of same re-melted and prepared in suitable form for sale; (5) specimens of wax from old combs of varying ages and conditions, with second samples of same ready for sale. The cleaning process was illustrated by samples of the dirt and refuse left after the wax was removed; (6) a jar of honey melted down in the "Solar" from unsaleable granulated sections and sample of wax separated from the honey in process of melting. This honey had a special interest for bee-keepers because of granulated honey in sections being usually considered as unsaleable. Here we saw and tasted honey which had apparently lost none of its original flavour, and had no doubt improved in consistency if not in colour by the sun-melting process.

The foregoing items were all directly connected with the "Solar," which in last-named sense becomes a wax and honey extractor combined. Mr. Weston, however, included in his exhibit samples of wax obtained by steaming a quantity of refuse in a Gerster wax-extractor for some hours; and a second cake of cleaned wax (about 3 lb.), as taken out of the "Solar" extractor. Also the dirt or refuse got from this wax, which was originally obtained by the old boiling process.

Mr. Hamly-Harris received a "high commend" for a very palatable and good sample of raspberry vinegar, the vinegar being made from honey.

On Wednesday, the 22nd ult., an examination was held in the show ground for the third-class experts' certificate of the B.B.K.A., Messrs. Thos. W. Cowan and W. Broughton Carr being the appointed examiners. Five gentlemen presented themselves as candidates.

HONEY SHOW AT ST. NEOT'S.

A small but neatly-arranged show of honey was held at St. Neot's in connection with that of the Hunts Agricultural Society, on Friday, the 1st inst. No doubt the comparative fewness of the exhibits staged would be well understood by those who know what a backward season means when the same state of things have prevailed at nearly all the shows hitherto held this year. The Hunts B.K.A. is, therefore, neither better nor worse off than others, and has done its best. The weather was fine and the attendance good.

Mr. W. Broughton Carr judged the exhibits and made the following awards:—

Observatory Hive.—1st, R. Brown, Somersham; 2nd, W. H. Woods, Hemingford Grey.

Twelve 1-lb. Sections.—1st, R. Brown; 2nd, E. T. Ebsworth, Hemingford; 3rd, E. Allen, Godmanchester.

Twelve 1-lb. Jars Extracted Honey.—1st, R. Brown; 2nd, J. Osborn, Buckden; 3rd, E. Allen.

Twelve 1-lb. Jars Granulated Honey (any year).—1st, W. H. Woods; 2nd, W. Woods; 3rd, R. Brown.

Shallow-frame of Comb Honey.—1st, R. Brown.

Bees' Wax.—1st, R. Brown; 2nd, W. Woods; 3rd, J. Osborn.

Single 1-lb. Jar Extracted Honey (open class).—1st, W. E. Woods; 2nd, W. H. Woods; 3rd, W. Woods.

Owing to the adverse season there was no entry in the class for *Display of Honey in Trophy form.* The Silver Challenge Cup and money prizes in this class could, therefore, not be awarded this year.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

DECAMPING SWARMS.

[3308.] I had intended to give you my experiences of bees taken from the roofs and walls of buildings a month ago, but it has been unavoidably deferred until now. If swarms decamp and enter the roof or wall of a building, to be of any use to their original owner they must be recovered as soon as possible, because I find that after living in a semi-wild state bees do not take at all kindly to a modern frame-hive, and it is only by re-queening in autumn or in the early spring that they can be thoroughly domesticated. I have had a good deal of experience in removing

bees from buildings, and it seems safe to say that bees secured in this way possess no value, unless the person who takes the trouble to secure them has the means of keeping them well in hand for a year by re-queening and close observation to prevent the bees swarming and decamping. It is only natural to suppose that colonies which have lived, and thrived, and swarmed to their hearts' content for fifteen or twenty years—such as I have removed from the roofs of churches and houses—should be reluctant to submit to our ideas of modern bee-keeping. If swarms enter buildings, and cannot be recovered, they should, in my opinion, be destroyed, if possible, for the bees will be a perpetual source of trouble as robbers, and should they become affected with foul brood they will be a source of danger to the bees of the whole district.

A wonderful sight meets the eye when a colony of bees established in a building is broken in upon. I have found a strong colony, a fine, prolific queen, combs (to which the standard size looks very small), cleaner than the combs in many of our hives, and honey enough for future generations of bees. My experience, however, of bees taken from such homes is that they will take the first opportunity to swarm and decamp.—W. Loveday, *Harlow, Essex.*

DOUBLE *v.* SINGLE WALLED HIVES.

[3309.] In the course of some of my bee reading lately I came across the following paragraph :—

"However, double-packed walls to hives do not pay for the extra expense as compared with single walls; and, besides being more cumbersome, are a positive nuisance during the heat of summer, when shade only is required rather than additional heat. For, as a matter of fact, packed walls cannot be cool in summer, as the advocates of the same would have us believe. Why the more frequent swarming complained of with these? And are we not told that more warmth is given in winter? How much more, then, in *excess* in summer!"

This is a question of much importance to bee-keepers; and if the foregoing reasoning were sound, we might as well discard double-walled hives in the future. But the reasoning is, in my opinion, entirely unsound. Double walls in winter prevent the heat inside from escaping too freely, and help to maintain an equable temperature; and in summer the outside walls provide *shade*, and prevent the natural warmth of the hive inside being increased by a glaring sun, which would soon penetrate through single walls. We all know that thatched houses are cool in summer and warmer in winter as compared with slate houses. A double-walled hive may therefore be compared to a thatched house, and a single-walled hive to a slate house. If it be a fact that swarming is more frequent in double-walled hives, it would show the probable cause to be that the bees breed better through the temperature being more equable all the year round. Double walls with dead air space between will give the most equable temperature possible to obtain, and will be cooler in summer and warmer in winter than thin single walls. In France the house windows are constructed on this principle to secure a similar result, and we all know that houses two bricks thick, with a dead air space between, are cool in summer and warm in winter, which would not be the case if only one brick thick.

While writing, I must add my grumble to those of others about the bee-weather. It has been simply atrocious in this district, heavy winds and rain being prevalent since May, with a few fine days between. I've had one hive of bees crowded up in the sections since the last week in April, yet at the present time the rack is not half full of complete sections. The bees swarmed on July 2, and, unless the weather mends, won't do much good now. But the heather may yet atone for present misfortune.—W. J. Farmer, *Pickering, Yorks, July* 4.

BEE NOTES FROM WEST DORSET.

A PROMISING START FOR HONEY.

[3310.] I send you a few "notes" regarding our bee doings in this part of the country. My home apiary has been in backward condition all along since '98 began. During the cold weather of May and the first week in June the bees decreased instead of increased, but for the last three weeks of June and up till now they have done good work. The white clover is now in full bloom here and the limes are nearly bursting into flower, both being three weeks later than in '97, so that I have hopes of getting a fair crop after all. My seventeen stocks at home are now in good condition, while at my out apiary of thirty-six stocks, situated at Loders (about two and half miles out), the bees are doing well. I have had to give some of them three boxes of shallow-frame to stop swarming.

I have been extracting for the last week. Some of the best hives now have from forty to fifty pounds ready to extract. I have taken some sections off full three weeks ago at my out apiary, which is situated in an orchard with an abundance of fruit trees, and I think the early bloom on them has helped the bees to do so well.—W. J. N., *Bridport, July* 4.

BEE NOTES FROM CHESHIRE.

SELLING THE HONEY CROP.

[3311.] Being situated as I am, say, some thousand yards or so from the Mersey side, it has often struck me if we get too much salt air with the very strong north-west gales that pass over this district, and which causes our honey flow to be so late as it is this year.

Some stocks have commenced to do a little in the supers, but not much; two others—not quite so forward—I have to-day (June 27) given a little syrup as there is very little food even in the brood nest but plenty of bees. There appears to be no surplus to be gathered yet—stocks consuming it as fast as they get it; but when I see friend Woodley's notes (3296, page 242) I still hope for better times to come.

I notice on page 243 our friend Loveday writes of the price of swarms, &c. I don't know whether he has an "axe to grind" or not, but I have a "grind" of my own. We now seem to be so much "up to date" as bee-keepers that it needs to be very sharp, and I am glad to see Mr. Loveday mention prices and "unfair dealing." My better half, who fills the part of "commercialist" to our "bee-department," waited on a local druggist with a view of effecting a sale of honey, when he politely said, "We never give more than 4d. per lb. Of course, we send our own mugs for it!" I need hardly say no business was done on those terms, but I thought some one is dealing unfairly here, but never mind, we will wait a while and shall see how things will turn out. Well, the result is, I am able to assure you, that our last year's stock is all disposed of, retailed at 1s. per lb., and we are anxiously waiting for the crop of 1898.—A Cheshire Cottager, *June* 27.

SWARMS LOSING WEIGHT IN TRANSIT.

[3312.] A few weeks ago a correspondent wrote you in regard to bees losing weight in transit—swarms, of course, being meant—and an opportunity having occurred the other day to verify the statement, I send you the result. The swarm came off about midday, and was taken in the usual way in a skep. About 7.30 the same evening the skep and swarm, with a thin floor-board, on being scaled was found to weigh 12½ lbs. At 6 o'clock next morning it was again weighed and had lost 5 oz. during the night. The ensuing day being dull, no honey was gathered, and at 7.30 in the evening, on being weighed again, it had lost exactly 14 oz. The swarm was then put into a frame-hive, and on weighing the skep and board afterwards there was a balance in favour of the swarm of 8 lb. 11 oz. when first weighed. In view of this it seems feasible that if a swarm left entirely undisturbed after hiving would lose that amount in twenty-four hours, a heavy swarm sent off by train, with all the consequent excitement, would be quite likely to lose a pound or more.—The Hastings Heathen, *Hastings, June* 30.

A BEE MYSTERY.

[3313.] A cottager told me one day that fighting was going on outside one of his skeps and that a swarm had taken possession of an empty hive adjacent. He said the bees had been hanging out of the skep previously. However, on going to look I advised him to sprinkle the bees with flour as the best thing to do, being of opinion that part of the swarm had tried to enter the full hive. I then noticed honey running from the hive, showing that some comb was broken down, but as it was evening I advised leaving it alone thinking the bees would probably clean it up and that I might make bad worse by attempting to lift it. One day this week his wife told me the bees had deserted the skep, so I went and looked and sure enough found it turned upside down and bees clearing out what honey remained, there was plenty of healthy brood, sealed queen cells, and dead bees.

Now why did they desert? Suppose the queen was killed, there were queen cells and brood. From the number of bees in the other hive it must have been a cast and the deserted skep had not swarmed, at least so I was told, but my opinion is that it had. Can any reader offer a solution? I cannot.—Alpha, *Hull, July* 2.

BEES FIGHTING AMONG THEMSELVES.

[3314.] Query 2035 (page 206 of B.J. for May 26) suggests to every bee-keeper the question, "What should I have done?" And though you, with all your experience, "can suggest no remedy," yet kindly allow one of the youngest of your subscribers to suggest a cure, taken from your own writings. Surely, if all the honey in question had been diluted to the same amount and flavoured with, say, peppermint or cloves, and if all the bees had been well sprayed with it so as to entirely change the smell of the whole colony, there would have been a great probability of success and peace. I should, in addition, have sprayed all comb and even the inside of the hive. Again, regarding Query 2043 (page 226), referring to field-beans, I cannot give any answer to this query, but both last year and this I have watched the bees on garden beans and noticed them puncture virgin (*i.e.*, unpunctured) beans. My boy (aged seventeen, who takes great interest in bees), to whom I mentioned the matter last year, tells me that he, too, is quite certain that he has seen them puncture garden beans that before were whole.—Only a Two-Year-Old Bee-keeper, *Chester, June* 27.

[The *point* of our reply is missed in the above.—Eds.]

LARD-BUCKETS FOR BEE-HIVES

AND FLOWER-POTS FOR SUPERS.

[3315.] I am sorry to see "Lard buckets" recommended as a domicile for bees by your correspondent "Alsford" (3,305, page 255) especially as he signs himself "Expert" who, I think, ought to give better advice. I have just been looking over an article on the bee in

"Science and Art" (Lardner) 1859. And judging by the illustrations therein one would think bee-keepers forty years ago were farther advanced in apiculture than to use such receptacles as lard-buckets for bee-hives. I suppose the main reason for recommending them is cheapness, but you can get boxes quite as cheap as lard-buckets. Champagne cases are just the right depth and width for nine frames, and Hall's "coca wine" boxes, by cutting down a little, will take eight standard frames. There are, no doubt, many other used boxes that could be had for a few coppers each, and would answer well with very little altering, so that with frames at 1s. 3d. a dozen and a few 9-in. boards one could soon make far more satisfactory hives and supers than lard-buckets and flower pots! I am well aware that the bees will work in almost anything, but what practical bee-keeper can overlook the messy job in taking the honey from such supers and from such hives? How much better it would be to have sections or shallow-frames and the bees in frame-hives.—G. F., *Sussex*, *July* 4.

BEES AND FARMERS.

[3316.] I have just been informed that a farmer in my district, whose name and address was given me, is unwilling for his men to become bee-keepers, being under the impression that bees rob him by gathering nectar from clover and other plants grown on his fields. I hope I may have an opportunity of showing the farmer referred to that he is robbing himself by declining to allow his clover and other plants to be fertilised, to enable them to produce seed for the reproduction of their kind.

Some years ago I read, I think, in the B.B.J. of a farmer having a field of white clover gone over with a heavy roller in order to kill the bees; but I was not aware that any farmer could be living in the dark to such an extent at the present time.—W. Loveday, *Harlow*, *Essex*, *June* 16, 1898.

UNITING BEES.

A NOVICE'S EXPERIENCE.

[3317.] Referring to the query put by "A. A. H." (3301, p. 244), may a novice be allowed to state his experience? To unite stocks, I place combs alternately, while to unite a swarm to a stock I shake the bees off first two combs on to alighting-board, then throw the swarms down on them; no flour, &c., required, all will run into hive peacefully. Be careful, however, that this manipulation is performed when no bees are on the wing. Am I correct, friend Sharp? *re* your suggestion as combs *versus* foundation for supers, I say no more combs for me. At end of season all combs will be consigned to melting-pot.—H. T. W., *March*, *Cambs*, *June* 23.

WIRING FRAMES.

A HINT.

[3318.] It is recommended to drive French nails through the frame and bend the points into hooks? I tried it and found the wire had a nasty knack of slipping off at a critical moment; I now use small screw-eyes not more than $\frac{3}{4}$ in. overall, *i.e.*, including eye and screw, and find these much better than nails and the cost is trifling. A special sort with much smaller ring or eye would be very useful if the screw-makers would make it. Here is a chance for appliance dealers.—Alpha, *Hull*, *July* 2.

SWARM CATCHERS.

[3319.] The following is from a letter written to me by a bee-keeper at Watford, dated June 16:—

"Through my own fault, I did not fix the 'swarm-catcher' quite close home to the hive, and the queen must have got out when the bees swarmed on Saturday (swarm weighed 8 lb.), but a few days before another hive's swarm duly returned, which gave me a pleasant evening contemplating the efficiency of Brice's design, which I vote first-class for the purpose."—T., *Kent*, *June* 24.

(*Correspondence continued on page* 266.)

HOMES OF THE HONEY-BEE.

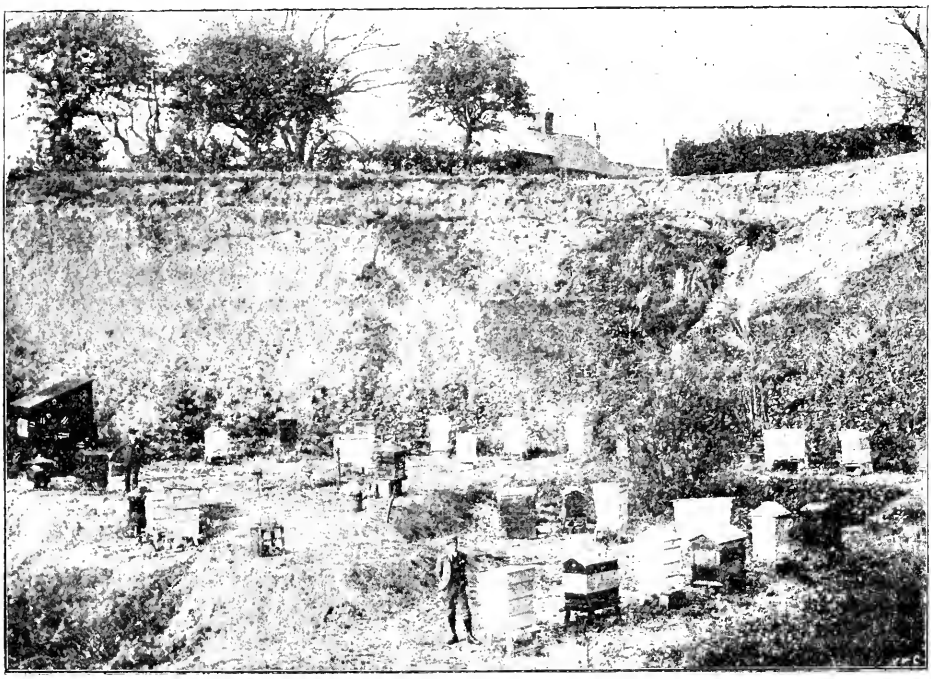
THE APIARIES OF OUR READERS.

Mr. L. Wren, whose apiary is depicted on the opposite page, has been a reader of, and at times a contributor to, our journals for a good many years. Residing at Somerleyton, five and a half miles from the town of Lowestoft—where, in conjunction with his son, he carries on the business of saddlers and harness makers—Mr. Wren's residence (aptly named "The Retreat") in the country, away from business cares, affords him the opportunity of indulging in such congenial hobbies as yield pleasure and restful recreation. Before taking "strong" to bee-keeping, about fifteen years ago, he was a poultry and pigeon fancier, and, as we learn, several cups won at such important shows as the annual exhibition at the Crystal Palace with birds from his yard bear testimony to his success in that line. But, as not seldom happens, when the bees got hold of our friend they "came to stay," and have since remained the home hobby which occupies all his spare time.

The location of the apiary is seen to be an uncommon one. Situated in a corner of what must be an extensive brickfield, the embankment of earth (over 20 ft. high), below which the hives stand, forms a useful protection from the north-east winds, which are severe on that part of the coast. A spring in the high

bank trickles down its side and yields fresh water for the bees just as they like to get it from the moist surface with no fear of drowning. A small stream, too, runs through the apiary, which is five minutes' walk from "The Retreat," and Mr. Wren passes the bees twice daily in his walk to and from the station for town.

From the few particulars of his bee experiences sent us for publication we learn that Mr. Wren was first actively attracted towards bees in May, 1882. When walking through the garden of J. J. Colman, Esq., he came across the bee-hives, i.e., about half a dozen stocks in skeps. The owner objected to the cruel sulphur-pit as a finish to the bees' labours in the summer, and so—as frame-hives and modern methods of bee-keeping were unknown thereabouts at the time—the bees had been in the garden for many years, but no honey had ever been taken from them. After some cogitating on the matter, Mr. Wren, though not knowing much about bees, volunteered to drive the bees and transfer them to frame-hives. His brother, who was a bee-keeper, sent him a pattern-hive and section-rack to work from, and several were made, and in the end the bees were transferred to them without a single hitch, with the result that the first year after the owner got his first ½ cwt. of honey from the bees. This exploit got noised abroad, and so many "skeppists" sought Mr. Wren's help in adopting the "new system," that he eventually had to put down a gas engine and machinery at his business premises in Lowestoft for the manufacture of bee-appliances. "In this way," he continues, "I was induced to become an active bee-keeper. The district is, indeed, blessed in being free from foul brood, but," he continues, "we do not secure any heavy takes of honey. I run about twenty hives for honey production, and retail annually about 1,000 pounds without soliciting a single customer." This year, and since the photo was taken, we learn that "the number of stocks has been increased to forty, so we are hoping to add to our harvest."



MR. L. WREN'S APIARY, SOMERLEYTON, NEAR LOWESTOFT.

Mr. Wren concludes by saying, "you will notice my mode of spring feeding with the three inverted bottles fixed on an open frame-stand, seen in foreground on left of photo. I have followed that plan of open-air feeding for the last ten years without a single case of robbing."

Mr. Wren is seen standing near the wooden erection on left of picture, which we take to be the "bee-shop," the boyish figure in front being that of his grandson. To the elder we wish many years of pleasure among the bees in the time to come, and to the younger, if not already a bee-keeper, we express the hope that he will follow his grandfather's good example.

CORRESPONDENCE.

(*Continued from page* 264.)

MEAD-MAKING IN SIBERIA.

[3320.] The enclosed statistics relating to the mead production of Siberia may interest many readers of the B.B.J. If a poor and thinly-populated country like Siberia can consume 244,000 gallons of mead annually, the possibilities in this country should be very great.—WALTER P. REID, *Addlestone, Surrey.*

SIBERIAN INDUSTRIES.

Board of Trade J., June, 1898, 660.

A brief account of the industries carried on at the present time in Siberia may be of some interest :—

Beer and mead brewing are proportionally better developed. In 1895, sixty-seven breweries were in operation, nineteen of which also produced mead. The principal breweries are ocated in Tomsk, Yenisseisk, Tobolsk, Irkutsk, and Akmolinsk. The total output is estimated to average about 375,000 vedros of beer and 75,000 vedros of mead (1 vedros is equivalent to 3·249 gallons).

Thus, the local production of drinks subject to excise cannot satisfy the existing demand for them, and accordingly they are, like spirit and vodkas, imported from various parts of the Empire by land or by way of Odessa and Vladivostock.

BEES IN A FERRET HUTCH.

NOVEL HOME FOR A SWARM.

[3321.] The enclosed cutting is from the *Portsmouth Evening News* of yesterday's date. I thought it interesting and rather remarkable, especially as to the ferrets remaining undisturbed.—C. H., *Southsea, July* 1.

"A Soberton correspondent communicates the following incident in connection with the swarming of bees in his neighbourhood :—Mr. J. Silvester, of St. Clair's Farm, had some ferrets in a hutch near an outhouse. On Wednesday last a swarm of bees was seen to alight on the top of the hutch, but in the evening they had disappeared. During the three following days a few were seen buzzing about outside the hutch, but no notice was taken of them until Mr. Silvester, sen., was stung by one of the insects. He got a bucket of water and dashed it over all the bees that he could see, thinking to drown them. Then Mr. James Silvester opened the sleeping part of the hutch to clean the ferrets' litter, and was astonished to find the swarm inside on the straw. They had been there four days, and had formed a good bit of comb on the top of the straw. Meanwhile, the ferrets had slept under the straw, each day coming out to feed in the outer portion of the hutch, and returning without apparently disturbing the busy lodgers. They, on their part, did not attempt to sting or harm the ferrets. The latter have now been removed, and the bees remain in full possession of their novel hive."

METEOROLOGICAL.

METEOROLOGICAL OBSERVATIONS TAKEN AT DUDDINGTON, STAMFORD, NORTHANTS, FOR THE WEEK ENDING JUNE 25, 1898.

1898.	Bar. in.	Tem. 9am deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in.
June 19....	30·01	61·7	70	57	13	63·0	—
,, 20....	29·99	63·7	74	49	25	60·6	—
,, 21....	29·85	65·8	72	59	13	65·0	·02
,, 22....	29·74	61·4	67	54	13	60·0	—
,, 23....	29·71	55·5	65	43	22	53·0	·15
,, 24....	29·62	62·0	70	52	18	60·4	—
,, 25....	29·42	58.2	64	49	15	56·0	·07
Means	29·76	61·2	68·9	51·9	17·0	59·8	*0·24

* Total.

For the week ending June 18 the mean temperature, viz., 53·1, was 4·3 below, and the rainfall, viz., 0·03 in., was 0·42 in. below the means for the week. The rainfall, May 29–June 18, viz., 0·80 in., is 0·69 in. below the average, and that January 2–June 18, viz., 7·83 in., is 2·28 in. below the average.

FRED. COVENTRY.

JANUARY AND JUNE, 1898.

A COMPARISON.

We print below the following remarkable statement regarding the weather conditions of January and June this year, from our esteemed correspondent, Mr. Coventry, which appeared in the *Standard* on the 30th ult.

Subjoined are the shade temperatures registered at Duddington, Northants, January 19-22 and June 12-15, 1898 :—

January 19-22, 1898.

1898.	Temp. 9.0 a.m. deg.	Max. deg.	Min. deg.	Range deg.	Mean. deg.
Jan. 19.....	50·0	54	43	11	48·7
,, 20.....	51·5	55	50	5	52·6
,, 21.....	50·0	54	48	6	51·1
,, 22.....	47·1	52	45	7	48·6
Means	49·7	53·8	46·5	7·3	50·3

June 12-15, 1898.

1898.	Temp. 9.0 p.m. deg.	Max. deg.	Min. deg.	Range. deg.	Mean. deg.
June 12	49·6	57	48	9	52·2
,, 13	49·1	53	47	6	49·8
,, 14	47·8	55	47	8	50·7
,, 15	49·9	58	37	21	46·8
Means	49·1	55·8	44·8	11·0	49·9

The mean temperature for January, viz., 42·1 deg., was 5·9 deg. above the mean. For the week ending January 22, the mean temperature, viz., 45·2 deg., was 8·6 deg. above, and that for the week ending June 18, viz., 53·1 deg., was 4·3 deg. below, the means for the respective weeks.

The instruments are read at 9.0 a.m. daily, are verified, and are in a Stevenson screen.

FRED. COVENTRY.

Duddington, Stamford, June 28, 1898.

WEATHER REPORT.

WESTBOURNE, SUSSEX,
JUNE, 1898.

Rainfall, 2·67 in.
Heaviest fall, ·90 in., on 26th.
Rain fell on 15 days.
Above average, ·87 in.
Maximum Temperature, 74°, on 11th.
Minimum Temperature, 38°, on 16th.
Minimum on Grass, 30°, on 3rd.
Frosty Nights, 0.
Sunshine, 186·1 hrs.
Brightest day, 3rd, 13 hours.
Sunless Days, 3.
Below average, 37·9 hours.
Mean Maximum, 61.4°
Mean Minimum 47·5°.
Mean Temperature, 54·4°.
Below average, 4·6°.
Maximum Barometer, 30·37°, on 17th.
Minimum Barometer, 29·53°, on 26th.

L. B. BIRKETT.

SEASONABLE QUESTIONS.

ANSWERED BY G. M. DOOLITTLE.

Question.—I am a beginner in bee-keeping, and have been persuaded to take *Gleanings*. I see that you have a query department in said paper, and I wish you would tell us through that department what you consider the prime thing a beginner should know first. What is the main thing in bee-keeping necessary to know?

Answer.—There are many things in bee-keeping which may be considered of first importance; and the beginner should understand all of these, if he or she would be successful; hence no one should enter the ranks of bee-keepers without first reading some one of the many good works on bee-keeping. There are more good books on this subject than I have time to mention here. Having procured one of these books, carefully read it two or three times till the whole is familiar to you from beginning to end, when you will be ready to subscribe for and read intelligently one or more of the several good bee-papers there are published in the United States.

Having got so far I will tell you one of the many other things you will need to know, for on this hangs very much of that which will bring prosperity. In nearly all localities where bees can be kept there are certain plants and trees which give a yield of surplus honey at a certain time of year, while, aside from this, there is little more honey obtained by the bees than is needed to supply their daily wants. Some localities give a surplus at three stated periods, others at two, while the majority give only one such yield. Hence it must be apparent to all that, if such a honey-yield (or yields) passes by without any surplus, none can be obtained during the season. From this it will be seen that, in order to be a successful apiarist, a person must have a knowledge of his locality, and also know how to secure the labourers (bees) in the right time, so they can be on hand when the honey harvest is at its best. Failing to do this there is little or no profit in apiculture, and my main reason for writing on this subject is that those who read may obtain the best results from their bees.

Practically first, then, we have the location. Here in Central New York our honey crop comes mainly from linden or basswood, which blooms from July 2 to 15, and lasts from ten days to three weeks, according to the weather. In other localities in this State white clover is the main crop, coming in bloom June 10 to 16; and, again, in others, buckwheat, yielding honey in August; but as the larger part of those living in the Northern States have a yield of honey from basswood I will speak of that as the harvest in illustrating what I wish to. Bear in mind, however, that it devolves on the *reader of this* to ascertain by careful watching just when and what is the source of his surplus honey, so as to work accordingly.

After having determined when we may expect our harvest of honey, the next step is to secure the bees in just the right time for that harvest. If you have a field of grain to cut, you hire the labourers when the grain is ripe, not before or afterward, yet in keeping bees, hundreds pay no attention to the matter of securing labourers, so that, as a rule, they are generally produced so as to become consumers rather than producers, and for this reason we often hear persons claiming that bee-keeping does not pay.

The queen is the mother of all the bees in a colony, she laying all the eggs producing them. Under the greatest stimulation she is capable of laying from 3,000 to 4,000 eggs a day, yet often she is laying only from 500 to 1,000 eggs daily at the time she should be doing her best. After the egg is laid it takes three days for it to hatch into a little larva. This larva is fed six days, during which time it has grown so as to fill the cell, when it is capped over and remains hid from view for twelve more days, when it emerges a perfect bee. This bee now works inside of the hive for sixteen days more, when the colony is in a normal condition, doing such work as feeding the larvæ, building comb, evaporating nectar, &c., when it is ready to go outside as a field labourer; and at forty-five days, during the working season, from the time of hatching, it dies of old age, and another generation takes its place.

From the above it will be seen that the egg must be laid at least thirty-seven days before the honey-harvest, in order that our bee have the opportunity of labouring in that harvest to the best advantage.

Now, if the harvest is basswood, commencing to bloom, say, July 7, the egg for our labourer should be laid on or before June 1. But how shall we secure the laying of the eggs just when we want them? There are several ways of doing it, such as feeding the bees thin sweets when you wish the queen to lay more

prolificly; giving young bees from other colonies that will feed the queen an extra amount of egg-producing food, &c.; but I will speak here only of the plan that has proven the most successful in my hands, with the least drawback, of any I have ever used. About May 10 to 20, according to the weather (if warm or an early season, the 10th; if cool or a late season, then the 20th), I commence to do what is known as "spreading the brood," which is simply reversing the brood-nest at this time, putting the combs having the least brood in them from the outside in the centre, and those having the most brood on the outside. This stimulates the queen to fill these nearly broodless combs with eggs clear down to the bottom and out at the sides, laying twice the eggs she had been during the days just past. In a week or so the combs of eggs and larvæ are spread apart, and a frame of comb having honey in it set between them. The removing of this honey causes great activity; the queen is fed abundantly, and the comb is filled with eggs in a "twinkling." If the colony is strong in bees, and we have the combs of honey on hand, two combs can be set in at this time. In a few days more the brood is reversed again, soon after which the brood is likely to fill every comb except the two outside ones, and these will soon be admitted into the brood-circle. This plan of manipulation causes the queen to fill the cells much more quickly with eggs than she would otherwise have done, and thus many valuable bees are gained, so that there will be a multitude of labourers at the right time, and, as I have often proven (by manipulating one row of hives in the yard, leaving another row untouched), nearly twice as many as there would have been had the bees been allowed to take their own course. In this way the best possible results in honey are secured, and I would advise any beginner to familiarise himself with this method.—*Gleanings* (American).

Echoes from the Hives.

"*Honey Cott*," *Weston, Leamington, June* 25, 1898.—Weather here very capricious up to a few days ago, and for about a fortnight bees were swarming and showing some fine vagaries, going up in apple and plum trees, which made it a hot job fetching them down, particularly as sometimes three or four swarms wanted to cluster together. Hives crammed, jammed full of bees, also in supers, but very little honey at present.—JOHN WALTON.

Biggleswade, Beds., July 3.—Regarding the bees in this district at date of writing, I may say the weather up to middle of May made my heart ache, while from May 15 to 24 bees here had the swarming fever. But in spite of swarming and bad weather it is surprising to see what honey is now being gathered. On May 15 I put eleven shallow-frames on one stock, and on June 29 I took off six of them completely filled and sealed, the combs weighing 5¼ lb. each. Three others were filled but not sealed. One of our swarms that came off on May 22 has filled two racks, each holding twenty-one 1-lb. sections, by June 29.—G. A. M.

Queries and Replies.

[2063.] *Returning Swarms.*—At the beginning of May, my bees being thickly crowded on ten frames, I put on a rack of twenty-one sections. However, the bees swarmed on May 22, when I cut out all queen-cells and returned the swarm, adding another super to give them more room. In spite of this they swarmed again the following Sunday, May 29, when I again returned them. Since that time there has been a noticeable slackness about the bees, which were formerly exceptionally strong. To-day, therefore, I made an examination of the hive. The top (first) super is about two-thirds full of comb; in the under one no work has been started; the brood-chamber contains neither brood nor eggs. 1. Does this indicate queenlessness? I exchanged an empty comb for one with young larvæ, eggs, and what looked like a partly-formed queen-cell, from my other hive, and replaced the partly-filled super. Kindly inform me if I have done the best thing under the circumstances? 2. Do you consider the bees will raise a new queen? I am very anxious to get surplus honey, and am naturally disappointed at the loss of the queen, this being only my second season as a bee-keeper.—F. E. P., *Haverstock Hill, N.W., July* 1.

REPLY.—1. No, but bees sometimes "sulk" for a few days when stopped from swarming. 2. If the old queen is gone, they would. But you should examine again, if in doubt, and see if there are eggs in cells.

[2064.] *Uniting Swarms.*—As a rule, I get all the information I require from a careful study of your journal week by week, but at the present time I am in this position: On June 29 one of my hives swarmed, the queen being at least two years old—perhaps more. I mismanaged matters somehow in hiving, for noticing some excitement among a little knot of bees in the grass, I made a search, and found the queen evidently in a dying condition. I fear she had been trodden upon. I had already given a comb containing brood to the swarm, so left them to raise a queen. However, to-day the parent stock threw off a very strong cast, and in hiving I united with it the bees of the prime swarm. The two lots cover ten frames. The frame of comb (on which queen cell was started) I put into the hive. I should like to know—1. Did I do wisely in uniting the two lots? 2. Whether I

had better cut out the queen cell, or leave the bees to arrange matters themselves? And 3. As the parent hive has two racks of sections on, had I better give one rack to the swarm? —W. H., *Brilley, July* 4.

REPLY.—1. Under the circumstances, yes. 2. Leave it to the bees; it is safer to do so than risk cutting out cells. 3. We should give both racks to the united swarm and cast, as being most likely to fill them.

[2065.] *Queens Taking Wing on Opening Hives.*—While opening a hive for a friend and turning back the quilt, the queen flew out and settled on my hat. Is not this most unusual? The stock was slightly affected with foul-brood.—M. F., Jun.

REPLY.—It certainly is not usual for queens to take wing as stated, but they do at times. And when this occurs the operator should remain quite still and allow the hive to remain open for a few minutes. In most cases the queen will either return to the hive or settle on the clothing of the bee-keeper.

Bee Shows to Come.

July 6 and 7 at Hanley, Staffs.—Horticultural Fête. Medals and liberal prizes for honey. Schedules now ready. Apply J. B. Barrow, Town Hall, Hanley.

July 14, 15, and 16, at Witton Park, Blackburn.—Bee and Honey Show, in connection with the Royal Lancashire Agricultural Society's Exhibition.

July 14 and 15, at Lincoln.—In connection with the Lincs. Agricultural Society. Schedules for the Bee Department from R. Godson, Hon. Sec. Lincs. B.K.A., Tothill, Alford.

July 19, at Wellington (Salop). Wellington and District B.K.A. First annual show of honey, bees, and appliances in connection with the Wellington Horticultural Society's Show. Seven open classes. Entry forms, &c., from R. Holland, Hon. Sec., Haygate-road, Wellington, Salop. **Entries close July 9.**

July 20, 21, 22, at Roundhay, Leeds.—Yorkshire Agricultural Society's Show. Liberal prizes for hives, honey, &c.

July 26, in the Parish Hall, Pembrey (Carmarthen).—Honey Show, in connection with the Horticultural and Industrial Exhibition. Bee manipulations, with lectures by Mr. E. Thornton, Hon. Sec. Glam. B.K.A. Seven classes for honey, including three open classes, for three 1-lb. sections, three 1-lb. jars, and for single jar of granulated honey. **Entries close July 19.** F. J. Morgan, Hon. Sec. Horticultural Society, Pembrey.

July 28, at Cambridge.—Honey show in connection with the Cambs. and Isle of Ely Agricultural Society. **Open class for single 1-lb. jar of extracted honey.** Schedules from C. N. White, St. Neots.

July 30.—In connection with Helsby (Cheshire) Flower Show, three open classes and single jar competition. Schedules from Dr. Briant, secretary, Helsby, Warrington. **Entries close July 23.**

August 1, at Beddington, near Croydon.—Surrey Bee-keepers' Association Annual Show, in connection with the Beddington, Carshalton, and Wallington Horticultural Society. Additional open classes. Increased prizes and medals. Schedules from F. B. White, hon. secretary, Marden House, Redhill. Entries must be made before July 16.

August 1, at Melton Constable Park.—North Norfolk B.K.A. Annual Show. Three open classes. Schedules from C. J. Cooke, hon. sec., Edgefield, Melton Constable. **Entries close July 25.**

August 1 and 2, at Althorp Park, Northampton.—Northants B.K.A. Honey Show, in connection with Horticultural Society's Show. Several open classes. **Entries close July 26.** Schedules and all particulars from R. Hefford, Kingsthorpe, Northampton.

August 8, at Church Gresley.—Honey Show in connection with the Floral and Musical Fête. The Derbyshire B.K.A. Silver Medal and money prizes for six sections and for six 1-lb. jars honey. Open class for 1-lb. section and 1-lb. jar—1st prize, £1; 2nd, 10s. Entry forms from T. Legge, Secretary, Mushroom-lane, Church Gresley. **Entries close August 1.**

August 10, at Clutton, Bristol.—Somerset and South Glos. B.K.A. Annual Show in connection with Clutton Horticultural Society. Six open classes. Schedules from Miss H. Dawe, Long Ashton, near Bristol.

August 10, at Marlow, in connection with the Marlow Horticultural Society. (Under the auspices of the Berks Bee-keepers' Association.) Show of Hives and Appliances, Honey, Bees Nine classes. Excellent prizes offered. Schedules from A. D. Cripps, Esq., Hon. Sec., High-street, Marlow. **Entries close August 6.**

August 13, at Dumfries.—In connection with "Band Contest," the South of Scotland B.K.A. will hold a honey show as above. **Two open classes for "Three's."** Schedules from Mr. J. Kerr, Hon. Sec., Douglas-terrace, Dumfries. **Entries close August 6.**

August 13, at Stoke Prior, near Bromsgrove.—Honey Exhibition in connection with the Stoke Prior Horticultural Society. Seven open classes. Three "Gift" classes of two 1-lb. sections of honey, two 1-lb. jars extracted honey, and single 1-lb. jar candied honey. Liberal prizes. Schedules, entry forms, &c., from Percy Leigh, "Beemount," Stoke Prior, near Bromsgrove, Worcestershire. **Entries close August 6.**

August 15 and 16, at Felling.—Northumberland and Durham B.K.A. honey exhibition, in connection with the Felling Flower Show. Schedules from T. Russell, 17, Stephenson-terrace, Felling. **Also at Gateshead, August 29 and 30.**—In connection with the flower show. Schedules from T. H. Armstrong, 111, Prince Consort-road, Gateshead. **Entries close August 20.**

August 17 and 18 at Dover.—In connection with the Dover Horticultural Society at Dover College Grounds. Additional open classes. Increased prizes and medals. Schedules from H. W. Brice, Hon. Sec. Kent and Sussex B.K.A., Dale Park, Upper Norwood, S.E.

August 17 and 18, at Blackpool.—Honey show in connection with the Blackpool and Fylde Horticultural Society, under the auspices of the L. & C. B.K.A. Schedules from C. E. Riding, Secretary, 9, Central Beach, Blackpool. **Entries close August 8.**

August 17 and 18, at Ince Hall, near Chester.—Open classes for six 1-lb. jars, three 1-lb. granulated, and single 1-lb. jar. Schedules from the flower show secretary, Ince, near Chester.

August 24, in Neston Park, Wilts.—Honey exhibition in connection with the Atworth and District Horticultural Show. Seventeen classes with liberal prizes, including single 1-lb. jar and single section, with free entry. For particulars apply to J. P. Inkpen, Sec., Atworth, Melksham. **Entries close August 20.**

August 27, at Windsor.—Windsor and District Branch, Berks B.K.A. Bee and Honey Exhibition, in connection with the Liberal Club Annual Flower Show. Schedules from J. Hyde, jun., Hon. Sec., 55, Bexley-street, Clewer. **Entries close August 18.**

August 27, at Withington, Manchester.—Honey Show in connection with the South Manchester Horticultural Society. Seven classes for honey, including open class (entry free) for single 1-lb. jar. Schedules from F. H. Taylor, Birch Fold Cottage, Old Hall Lane, Fallowfield, Manchester. **Entries close August 13.**

August 31 and September 1, at Burslem, Staffs.—Annual Bee and Honey Show of the Staffs. B.K.A., in connection with the Staffordshire Agricultural Society. Sixteen classes for bees, hives, honey, and appliances. **Four open classes,** including class with three prizes for 1-lb. section, 1-lb. jar, and 4 oz. beeswax. Schedules from Mr. J. P. Jones, Sec. Agricultural Society, Newcastle, Staffs. **Entries close August 6.**

September 7 and 8. At the Cattle Market Derby.—Derbyshire B.K.A. Seventeenth Annual Exhibition of Bees, Honey, and Appliances, in conjunction with the Show of the Derbyshire Agricultural Society. Liberal prizes. **Eight open classes.** Schedules from F. Walker, Hon. Sec. D.B.K.A., 64, Gerard-street, Derby. **Entries close August 31.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column

L. C. F. (Sutton).—There is unmistakable foul brood in comb received, and as the hive is stated to be fairly full of bees, we advise getting the latter off the combs and keeping them indoors (confined, of course) for twenty-four hours. Meantime, the hive should be well scrubbed out with hot water in which a good handful of common washing-soda has been dissolved. Next fit up about six *new* frames with full sheets of foundation, and after placing these in disinfected hive, return the bees to it and feed for a few days with medicated syrup. Burn the old combs, frames, and food.

KINGSWINFORD.—*Queen Cast Out of Hive.*—1. The queen received is maimed, having lost the *tarsus* or foot of one leg. It is impossible to say whether or not this has had anything to do with her being cast out; but though an adult queen, there are none of the usual signs of old age. 2. The worker bees sent may be classed as hybrid Carniolans.

T. E. P. (Pewsey).—*Uniformity in Frames.*—1. There is no comfort in working bees with frames of all kinds in one hive, and bee-combs to boot. The only remedy is to cut and transfer the best of the combs into standard frames, with uniform "ends" or distance spacers.

"K." (Daventry).—*"Quilts" for Bee-hives.*—Hair cloth (used for straining purposes) is the only material we can suggest as being free from the faults you find in such materials as "calico, crash, ticking, and American cloth."

W. B. (Old Hill).—Sorry your note was inadvertently mislaid till now. Mr. Cheshire's book, "Bees and Bee-keeping," is published by L. Upcott Gill, 170, Strand, W.C. We do not know where Mr. Cheshire's earlier work "Practical Bee-keeping" (written over twenty years ago) is to be had.

W. H. (Methwold).—*Remedies for Bee Stings.*—If a sample of the remedy mentioned was sent here for trial and found to be so effective as stated, we should, perhaps, not hesitate to print your testimonial in its favour. Otherwise we could not print what is palpably a free advertisement in our columns without the ordinary payment.

WEVA (Enniskillen).—*Queen Failing to Mate.*—Queen sent is a virgin, and, though small, might have developed fairly well and become prolific if mated. After three weeks of moderately fair weather it is safe to say she was worthless and would have only bred drones if kept longer.

W. B. V. H. (Consett).—Combs, up to date of writing, have failed to reach this office, and we must, therefore, conclude that samples have been lost in post.

J. COLBLEY (Kettering).—Foul brood is developing in comb sent. We forwarded you a copy of "B. of A." leaflet on foul brood by post, but letter was returned as "not known."

A. H. (West Kilbride).—1. There is no foul brood in comb sent. 2. If the queen-cells are occupied and young queens nearly ripe for hatching the old queen may be destroyed—but not otherwise.

J. B. (Hinckley).—With regard to transferring bees from skeps, see reply to "D. L. R." (p. 256).

W. M. F. (Ringwood).—*Immature Larvæ Cast Out.*—Brood sent has been chilled. If hive is strongly suspected of being affected with foul brood, a piece of comb with brood in it should be forwarded for our inspection and opinion.

R. M. (Newark).—We don't quite know what sort of "brass plates for attaching to bee-hives" you mean, but probably Mr. W. P. Meadows, of Syston, could supply you.

A WEEKLY READER and J. WOOD.—*Wild Bees.*—Insects sent are wild bees of the *Andrena* species, and we need hardly say are of no use whatever to bee-keepers.

A. P. (Kirkbythore). — *Suspected Comb.*—Owing to our temporary absence from town the comb had become thickly covered with mould when box was opened. This rendered inspection difficult, but, though not quite certain, we fancy the stock is slightly affected with foul brood.

W. H. (Davenport, Congleton).—Foul brood is developing in comb without doubt, and if stock is weak we should advise destruction for the sake of your "eight strong healthy stocks near the diseased one."

W. L. (Kimbolton).—Comb was so crushed and smashed in post that we could not judge of its condition. Why send in a slight cardboard box when we so repeatedly ask for samples to come in tin boxes?

ANXIOUS ONE (Acomb).—*Abortive Queen-cell.*—It is not uncommon for an odd queen-cell to prove abortive. There is nothing to indicate disease.

J. S., Junr. (Prescot).—Comb sent has never been bred in at all, consequently we can offer no opinion as to the healthiness or otherwise of stock from which it was taken. The substance in cells is pollen.

*** Some Samples of Comb and a few Replies to Queries will be attended to next week.*

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 105, Jermyn-street, S.W., on Friday, July 8, Mr. T. W. Cowan occupying the chair. There were also present Miss Gayton, Messrs. R. T. Andrews, R. C. Blundell, H. W. Brice, W. Broughton Carr, W. O'B. Glennie, F. B. Parfitt, E. D. Till, E. Walker, T. I. Weston, C. N. White, and the secretary. Letters of regret at inability to attend were read from the Hon. and Rev. Henry Bligh, Mr. W. H. Harris, and Mr. R. Hamlyn-Harris.

Mr. Carr mentioned that he had just heard of the somewhat serious indisposition of Mr. J. M. Hooker, and a resolution of sympathy with that gentleman was unanimously passed, with an expression of hope that the illness may be of a temporary nature only.

On behalf of those present, Mr. Till gave expression to the pleasure felt by the Council in having the chairman (Mr. T. W. Cowan) once more amongst them. In response to the very hearty welcome accorded him, Mr. Cowan said the pleasure was reciprocal, as, however enjoyable it might be to travel about seeing the world, it was still very nice to be home again, and to experience such a welcome as he had just received at the hands of old friends. He had seen much that he thought would interest bee-keepers whilst out of England, and he hoped at some future time to give them a record of some of the incidents in his visits to bee-keepers of other lands.

The minutes of the previous meeting were read and adopted.

The following new members were elected, viz. :—

Mr. Samuel Johnson, Seldenville, Lyndhurst-road, Worthing.

Mr. W. S. Lane, Clenchwarton, Norfolk.

The Finance Committee's report, presented by Mr. Till, gave an account of the receipts for the month ending on June 30, and recommended a number of payments, which were endorsed by the Council.

On the recommendation of the Examiners appointed to officiate at the Penzance, Portsmouth, and Birmingham Shows, it was resolved to award 3rd Class Certificates to :—John Berry, Wyckham Blackwell, W. R. Charles, Wm. Jeffery, Henry Rowell, and Rev. W. H. A. Walters. The Committee reported that an unusual number of applications had been received for the services of examiners in various districts, and that they had that day provided for examinations in fifteen distinct centres. The appointments suggested by the Committee were agreed to, and the report approved.

The Secretary read correspondence with the Managing Director of the Grocers' Exhibition, in relation to a proposal to organise a "Honey Competition," limited to Master Grocers at the coming show at the Agricultural Hall in October next. It was decided to recommend the provision of two classes, one for twelve sections of comb honey, and one for twelve 1-lb. jars of extracted houey, British produce only, and to offer, in addition to the prizes voted by the Grocers' Society, the silver medal, bronze medal, and certificate of the B.B.K. Association. It was also agreed to nominate a judge or judges of the exhibits in the department.

It was resolved to ask the Education and Exhibition Committees to arrange for a meeting to take into consideration the list of judges nominated by the County Associations, and to report the result of their deliberations to the next meeting of the Council.

HONEY SHOW AT HANLEY, STAFFS.

In connection with the Horticultural Fête an exhibition of honey, bees, and appliances was held in the Park, Hanley, on July 6 and 7. Liberal prizes were offered by the committee resulting in a total of seventy-one entries. Bearing in mind the adverse conditions of the present season, a good show of honey was staged, most of the leading Staffordshire bee-keepers sending exhibits, as did other well-known exhibitors from distant parts of the country. It is much to be regretted that some exhibits did not arrive in time to compete. In the class for observatory hives, one was found to contain so many dead bees that it was evidently passed over on that account. This murdering of bees in observatory hives is much to be deplored. Associations should make the rule on this point more stringent. The judging was entrusted to Mr. Robert Cock, who made the following awards :—

AWARDS—COUNTY ONLY.

Twenty-four 1-*lb. Jars Extracted Honey.*—1st, J. R. Critchlow, Newcastle ; 2nd, F. Harper, Uttoxeter ; 3rd, Elihu Clowes, Blackbrook ; 4th, W. H. Scarlett, Stafford.

Twelve 1-*lb. Sections.*—1st, J. R. Critchlow ; 2nd, E. Clowes.

OPEN CLASSES.

Twelve 1-*lb. Sections.*—1st, Wm. Woodley, Beedon, Newbury ; 2nd, H. W. Seymour, Henley-on-Thames ; 3rd, Rev. J. Butler, Beedon ; 4th, J. R. Critchlow.

Twelve 1-*lb. Jars Extracted Honey.*—1st, W. H. Seymour ; 2nd, P. H. Rawson, Market Drayton ; 3rd, E. Clowes ; 4th, H. O. Smith, Louth.

Six 1-*lb. Sections.*—1st, Rev. J. Butler ; 2nd, Wm. Woodley ; 3rd, H. W. Seymour.

Twelve 1-*lb. Jars Granulated Honey.*—1st, J. H. Collier, Stafford ; 2nd, W. T. Collier, Haughton ; 3rd, W. H. Scarlett.

Three Frames of Comb Honey.—1st, E. Clowes; 2nd, Geo. Wells, Aylesford, Kent; 3rd, J. Stone, Cubley.

Bees in Observatory Hive.—1st, J. H. Collier; 2nd, J. R. Critchlow; 3rd, E. Clowes.

Collection of Hives and Appliances.—1st, G. H. Varty, Etwall, Derby.

Lectures and demonstrations were given during each day in the bee-tent of the Staffs. B.K.A. These were largely attended by interested spectators.—(*Communicated.*)

HORSES STUNG BY BEES.

For some days past we have been receiving Press cuttings from all quarters, giving more or less alarming accounts of an incident very regrettable indeed from a bee-keeper's point of view, which took place recently near Gedling, a village in Notts. In order to put our readers in possession of both sides of the affair as given, first, by a newspaper reporter, and, second, by the owner of the bees which did the mischief, we print below the following from the *Notts Daily Guardian* of July 4:—

"On Friday, July 1, a very singular incident occurred in a field between the villages of Carlton and Gedling. About 11 a.m. two men named Ablery and Rudkin, in the employ of Mr. Fred Shepherd, timber merchant, were engaged in mowing with a machine, attached to which were two horses, at Bleak Hill. On the hedge-side where operations commenced there is a small spinney, and in the spinney an apiary, the owners of which are Messrs. Trimmings and McKinnon. The apiary contains a number of hives, but there is nothing to indicate its existence to the passer by, and the workmen referred to were probably not aware of its existence. As the mowing machine passed along the bees were disturbed. The bees resented the disturbance, and fastened upon the horses with great determination and ferocity. In a very short space of time the poor animals were stung in all parts of their bodies, and must have suffered agonies of pain. The men attending the machine were also stung, one of them very badly about his head and face. A man named Elvidge courageously went to the horses and helped to extricate them from the machine, though this could not be done until the arrival of both the owners of the bees. The bees had fastened themselves in the ears of the horses, and the wretched animals dashed their heads against the gates and walls, but without avail. They were taken home, and Mr. E. D. Johnson, veterinary surgeon, of Nottingham, sent for. One of the horses died on Friday evening, and the other on Saturday. They were valuable animals, and the greatest sympathy is felt with Mr. Shepherd in his loss. The field was not his, but he had engaged to mow it. The man most badly stung was attended by Dr. Knight, of Carlton, and is now progressing favourably."

Commenting on the above, Mr. Trimmings who with Mr. McKinnon is referred to as owning the bees in question, writes to correct the reporter's version of what took place. In a note addressed to the editor of the paper in which the above report appeared, he gives the facts of the case as follows:—

"About eleven o'clock on Friday morning three men employed by Mr. F. Shepherd, of Carlton, entered a field on Bleak Hill, Gedling, and after working twice round the field arrived at a point direct in the line of flight of some bees standing in an adjoining field. It happened that one of the horses was stung by a bee, and the men, seeing the other bees passing over, struck at them, consequently they also were stung. Instead of leading their horses away, they themselves ran from the machine and horses to a place of comparative safety, and the poor animals were left to the mercy of the bees, which stung them badly, causing them to kick and dance, until they fell, entangled with the harness, &c. One of them broke away, while the other was helplessly penned down by the pole of the machine for no less than an hour and a half. Then (thanks to Mr. Sketchley, of Netherfield, who rode on his machine and informed me of what had happened) I at once rode off on my bicycle, and found one horse being badly stung and the men on the main road, fighting with and terrifying the bees, and a crowd all doing the same.

"Mr. McKinnon having arrived simultaneously with myself, we at once covered the horse with carbolic and water solution, which had the effect of keeping the bees from killing the animal right out. We then proceeded to cut away the pole and harness, and in ten minutes from the time we arrived we had liberated the horse and got it on to the road, quite clear of bees. All this could have been done quite an hour and a half before had we been informed of what was taking place. Had these men taken the horses forward or out of the machine immediately they discovered their danger, instead of fighting with the bees, the serious results and suffering of the poor horses might have been prevented.

"The bees were simply working in their ordinary way, and not 'swarming,' as stated, and the swinging of cloths, bags, sticks, handkerchiefs, &c., was the cause of the serious occurrence. A. E. Trimmings.

"*Carnarvon Villas, Gedling, Notts.*"

[Since above was written a circular has reached us notifying that a public subscription is being got up in the neighbourhood where the accident took place to recoup the owner of the horses for his loss. We will be very glad to take charge of any sums which may be sent to this office for the above object, receipt of which will be acknowledged in our columns.—Eds.]

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

SUSPECTED BEE-POISONING.

[3322.] I am sending a few dead bees from my apiary to ask if you can give me any cause for death, for they are lying about in thousands dead. There is no fighting going on, and I cannot trace the bees as coming from any one hive, all of which seem healthy. I am nearly sure it is poison in some form or other. But what it is or where it comes from puzzles me. My apiary is located in the corner of a field close to several market gardens in which are some six or seven greenhouses. Now, unless the owner is using some poisonous preparation in the gardens I cannot account for the mischief, which I noticed for the first time on the 6th inst. As a rule, if you find a bee on the ground stranded and you take it in your hand, it will, when warmed up, soon fly off home, and as much as say "thank you!" But these bees will not be taken up; they keep running anywhere and everywhere in aimless fashion—scores of them at one time—but in a little while they turn over and die. If you, Messrs. Editors, can give me any advice in this matter I shall be glad, as I don't like this bee-murder work going on. I have been a bee-keeper over twenty years, and my help is asked for by scores of bee-keepers round me, but on this question I am quite in a fog. I have seven hives all with shallow-frames on, as I work for extracted honey, and if the present grand bee-weather continues (and this destruction of bee-life can be stopped), I shall have no cause to grumble so far as my own bees and honey-crop are concerned in 1898.—T. A., *Cardiff, July* 11.

[We think it would be well for our correspondent to make inquiry as to the use or non-use of such poisonous compound as is suspected of causing the bees' death. We know that arsenic is often used for spraying trees and plants in spring, and this might, of course, be the source of damage, but an examination of the dead bees sent to us points rather to starvation as the cause of death. All the dead insects have the proboscis protruding, as is usual with bees dead from famine, while not a trace of food could we find in the bodies; and, strange though it may seem, not a few stocks of bees have died from want of food last month. Anyway, we advise inspection of the hive to clear this point up one way or the other. Had the poison suspected to have caused death been *phosphorus*, it would explain the dried-up condition of the dead bees' intestines. The ragged wings noticeable on all the bees also puzzles us. They look like old worn-out workers that have died of "wear and tear." Altogether it is a very curious case, and one not easily decided upon from a distance.—EDS.]

QUEEN TAKING WING.

[3323.] I had a similar experience to that of your correspondent "M. F., Jun." (2065, p. 269). While examining a nucleus colony about a fortnight since to see if the queen had commenced laying, I observed a bee fly off the comb which I had just raised from the hive, and as it struck me that the bee seemed larger than ordinary, I thought it might possibly be the queen. I therefore kept quite still, and soon saw the bee referred to alight on a leaf of a black currant bush just behind me. After lowering the comb into the hive I looked closely at the spot indicated and soon saw that it was the queen bee. Taking my veil—ready to hand as usual in my pocket—I placed it over her, detached the leaf, and returned her to the hive. This is the first time I have had a queen leave the comb during inspection.

A large swarm issued from one of my hives on June 5 (Sunday as usual); this I believe to be the first swarm in our district this summer. In looking into the super of one of my stocks this week I found the bees carrying down the small amount of this year's honey already gathered, and were busy in converting the combs (which were drawn-out worker cells when first on the hive) into drone apartments.

My experience of the present season up to the time of writing is that it has been one of the worst for some years past for honey getting, but if the weather will only give us some "July days" we may yet secure a little. You will no doubt be pleased to hear how bee-keeping has progressed in our village. Whereas four years ago there was only one bee-keeper, now there are no less than twelve within a mile radius, all using frame hives.—W. RUSSELL WEST, *Northenden, July* 8.

LARD BUCKETS FOR HIVES.

[3324.] Your correspondent "G. F." (3315, page 263) seems to have got on to another line altogether from that on which we started. I supported Mr. Bellairs in recommending lard buckets for improvised hives and supers, and also flower-pots for supers, in cases of emergency, instead of straw skeps when the latter is not obtainable. However, I will continue to recommend them, and as to being a "messy job" to take honey from them, I say it is only "messy" in the hands of a bungler. Of course, unless great care is used in straining honey it is sticky, and one needs to be very careful in working at it to keep himself quite clean and the honey as well. Convert-

ing boxes into frame-hives is quite another thing, and has no bearing upon the point in question.

It can easily be done, but a well-made frame-hive for cottager's use can be had now of most of our makers for a very few shillings; besides timber is now so cheap that new boards can be bought at a price not much above the cost of empty champagne cases.

Within the last twenty-five years I have taken bees and honey from hives of almost every conceivable kind and condition, and from all sorts of places. I remember some years ago taking bees and honey from a disused kitchen boiler, the bees having taken possession through the tap-hole! For my own part a good frame-hive to take the standard frame is my "standard," but this is not the point, which only refers to lard buckets and pots in cases of emergency.—ALSFORD, *Expert, Blandford, July* 9.

ORIGIN OF THE WORD HEATHER.

[3325.] In the latest quarterly instalment of the "Oxford Dictionary" (Clarendon Press), there is an interesting reference to the word "heather." I send you extract from the critique in the *Times* of to-day.—E. D. T., *Eynsford, July* 11, 1898.

"Points of etymology, some new, some more accurate than heretofore, appear under 'haviour,' 'heald,' 'heathen,' 'heather,' 'heaven,' and 'Hebrew.'"

Of these "heather" is disconnected from "heath," and an independent Scottish origin is suggested for reasons which may best be given in Dr. Murray's own words :—

Of uncertain origin; commonly viewed as related to *heath*; but the form *heather* appears first in 18th c., and the earlier *hadder* seems on several grounds to discountenance such a derivation. The word appears to have been originally confined to Scotland (with the contiguous part of the English border); the northern Engl. equivalent, as in Yorkshire, &c., being *ling*, from Norse. The word *heath*, on the other hand, seems to be native only in Southern and Midland counties, and never to have been applied to the Yorkshire or Scottish "moors"; it is only in comparatively recent times the southern English *heath* and the Sc. *hadder*, *hedder*, have been associated, and the spelling *heather* thence introduced. On the analogy of *adder*, *bladder*, *ladder*, now in Sc. *ether*, *blether*, *lether*, and of Eng. *feather*, *together*, *weather*, we should expect *heather* to go back through *hedder*, *hadder*, to a type *hædder* or *hæddre*.

The earliest form given seems to be "hathir" in 1335, and about a century and a half later the word appears as "haddyr," but in 1548 the "English Heth, hadder, or ling" is given by Turner, a writer on "Names of Herbes," as the name of the plant known in Latin as *erica*. "Dr. Murray's authority is great, but we should have thought that in the face of this quotation the disconnection of 'heather' from 'heath' was hardly quite established."

DRIVING BEES.

CARRYING DRIVEN BEES IN BAGS.

[3326.] As this subject is now being discussed in B.J., I am sending you on my method of "driving," and also one of my old bee-bags, which you will see has done good service, I having used them for several years. My plan is to give the skep to be operated on two or three good puffs of smoke, but not more; then stop entrance loosely with a tuft of grass; wait about two minutes, then give another puff of

Bee-bag for Driven Bees.

smoke, and at once invert skep and draw the bag over it. Next draw the tapes close and tie the ends tightly about two inches up the skep. Carry it to where you are going to drive the bees, tie the bag up by the handle at top to a bush or anything handy. After you have fixed the inverted skep in position for driving, and if you have a spare skep, place it on the old stand. After the bees are driven into the bag, carry them back and hang them over old stand to a stick or garden-fork sloping over it. Shake out what bees are in spare skep on stand, when they will soon join those in the bag. The latter must

not be more than 15 in. deep or the bees will not go to the top of it, but hang on the side when it will take twice as long to drive them.

I have driven scores of skeps in this way and have not had a single failure yet. Eight bags may be carried on the handle-bars of a bicycle ; but try to reach home before dark, as I was once chased more than a mile on a strange road by a sheep-dog, which made things far from comfortable.—W. D., *Winchester.*

AFTER-SWARMING.

HOW TO PREVENT IT.

Probably there is nothing so perplexing to the farmer who keeps a few colonies of bees —or the novice with his ten or twenty hives, nor, in fact, to the apiarist with his hundreds of colonies—as after-swarms. They are rarely wanted by any one, but are generally ever present to annoy, unless they are prevented from issuing by the bee-keeper. With box-hives and log-gums, coupled with the knowledge possessed thirty or forty years ago few could do little else than let them issue at will. They were often returned, only to issue the next day, and not seldom again on the same day, where they came out during the forenoon. The cry of "bees swarming!" about as soon as we would get into the hay-field on some hot July morning during the fifties, and "bees swarming" all through the day, decided my father to let this branch of agriculture alone, and as four-fifths of these bees were after-swarms, and not being wanted, they were the ones which gave the verdict, or caused it to be given against the bees.

But since the frame-hives came into general use this after-swarming nuisance can be prevented ; but in order to do this we must know the conditions causing their issue, and when they are to be expected. One of our oldest bee-keepers, and one who has had years of experience, was heard not long ago to give expression to these words :—"A queen usually hatches on the eighth day after the first swarm issues, and it is on that day that the second swarm will come off." This I consider is a mistake, and I am led to reason that if our oldest bee-keepers do not fully understand under what circumstances after-swarms issue a few words to the novice, and those not professing to be informed on this subject, might not be amiss.

After years of study on this point and most careful watching, I find that where the colony casting swarms is in a normal condition, the egg intended for a queen is deposited in the embryo queen-cell from three to three and a quarter days before it hatches into a larva. This larva is in the larval form from five and a half to six days, at which time the cell containing it is sealed. After the cell is sealed it is in the chrysalis form seven days, making a period of about sixteen days from the time the egg was deposited in the cell to the time the queen hatches.

When the queen first emerges from the cell she is a light-coloured, weak thing (unless kept in her cell after maturity by the workers), as all who have handled queens well know, and is no more fit for leading out a swarm than she is for egg-laying ; but during the next forty-eight hours she gains strength rapidly, so that when she is about thirty to thirty-six hours old she begins to "pipe" or "peep," as it is termed ; and when she is from forty-eight to sixty hours old she is ready to lead out a swarm, where there are rival queens in other queen-cells.

From the above it will be seen that the second swarm does not issue on the day the young queen hatches, but about two days afterwards, if the weather is propitious. This, I believe, is according to M. Quinby in his "Mysteries of Bee-keeping Explained," which I have always found to be very nearly correct on all topics on which it treats.

Some may object to the term "leads out a swarm," and if it were applied to the first or prime swarm it would not be correct, for with a colony having an old or laying queen the bees seem to be the leaders in the swarming movement ; but with all after-swarms the case is different, for with these we find the young queen first, or among the first, to leave the hive.

When a colony is in a normal condition, or when an apiary is not affected with the swarming mania, the first swarm issues with the sealing of the first queen-cell, unless kept back by unfavourable weather or circumstances. By issuing upon the sealing of the first queen-cell I mean this: if the cell is sealed at some time during the hours of 8 to 12 a.m, the swarm is likely to issue from 12 a.m. to 3 p.m. of the same day ; but if sealed from 2 p.m. to 8 a.m., then the swarm will doubtless issue during the forenoon, so that in the latter case, which is the usual one, the cell will be sealed anywhere from one to eighteen hours before the swarm issues.

I have been particular in this matter, so that we could know just when to cut out queen-cells to prevent these after-swarms. If we remove all the cells but one on the fifth or sixth day after the swarm issues, as has been recommended by many, there is no certainty that the cells left will hatch ; and, furthermore, the bees still have larvæ young enough to convert into queens, which they are almost sure to do, and in this case they will often kill the queen which hatches first instead of allowing her to destroy these later-started cells, when we not only have as many after-swarms as we should have had without removal of the cells, but we have also the disadvantage of getting queens reared from old larvæ, which, as all experienced men know, produce inferior queens.

But if we defer cutting out cells till the eighth day we shall run no risk of the colony

swarming. Where the first swarm was not kept back by foul weather there will be no larvæ young enough to convert into queens, and, as a rule, the first young queen will be hatched, and thus we can make a sure thing of the matter if we make sure we cut off *all* the queen-cells there are in the hive. For these reasons I now wait till the morning of the eighth day after a prime swarm has issued, when I open the hive, take out the first frame, and hastily glance over it for nearly ripe queen-cells, and if none are found I shake the most of the bees off near the entrance of the hive, into which they will immediately run. The frame is then closely inspected for queen-cells, peering into every nook and corner for them, for, should some small, crooked one be missed swarming would surely result.

All cells are cut off after a frame has been shaken to rid it of bees, for this shaking of the young queens in their cells is likely to cause them to be deformed, if not killed outright. The next frame is treated in the same way, unless ripe cells are found, in which case it is set outside of the hive awaiting the finding of a cell from which the queen has hatched, when all are cut off. Should none have hatched, then the best one of the ripe cells on the frame set out is saved and put back into the hive.

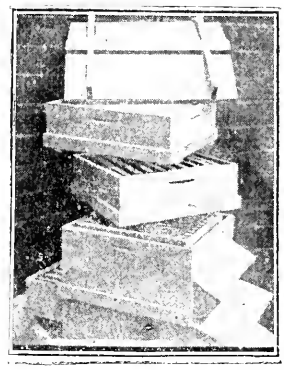
In this way we can make sure that no after-swarm will issue from this hive, and it is the only certain plan that I know of, and this I say after having tried nearly all of the plans ever given to the public, and quite a few that were given privately to myself.—G. M. DOOLITTLE, in *American Bee Journal*.

NOVELTIES FOR 1898.

THE BIRMINGHAM PRIZE HIVE.

Mr. Meadows, in describing the above novelty for 1898, says: "For some years we have been making experiments here with non-swarming and bottom-feeding and ventilating plans which hitherto have only been partially successful. Our new arrangement for 1898, however, has many advantages not before secured. It is more easily worked, I think, than any hive at present in the market. The one illustrated is our well-known 'Guinea Hive, on the W.B.C. plan,' and all parts are interchangeable with our hives sent out for so many years. The stand only is altered and made deep enough to take an ordinary shallow body, which slides in at the back. This effectually provides for bottom-ventilation without the evils attending drop-floors, &c. The top bars of the frames forming a floor board so that the body-box and upper chambers are reached in the natural way and without crowding to the sides or back or the necessity of flying. The plan also provides a perfect non-swarming arrangement, starters being put in the frames. The bees can, if too hot or overcrowded at the top, take possession of the lower chamber, and thus gratify their swarming propensity by comb building. When work has commenced in earnest there, the shallow-frame box should be removed to the top, another empty one as before taking its place. It is not intended that full bodies should ever be allowed below brood-chamber, and if this principle is adhered to, no propolising will result, and the bodies will slide easily in and out at any time.

"The ordinary hive entrance being undisturbed and directly under the brood chamber, the addition of a shallow-frame bottom body is in no way objectionable and provides a



Meadows' Non-swarming Hive.

natural space for the bees as required instead of necessitating their 'hanging out,' as is so often the case. In order to provide for rapid feeding my well-known 'Warwick Feeder' is made deep enough, and has lugs added so that it will hang below the body and allow of spring and autumn feeding without any disturbance to brood-chamber or the upper bodies, or the breaking away of any work completed by the bees for their protection during the winter. It also does away with the need of holes in quilts, &c.; the body can be partially withdrawn, the feeder refilled and replaced quite easily, neither roofs nor quilts being removed. The feeder can also, if desired, be used on the top of the hive in the ordinary way. Finally, when finished with for the season, by simply placing on the lid, the shallow-body is converted into a solid floor, which can be withdrawn and cleaned as desired, without any disturbance to the bees or hive."

Queries and Replies.

[2066.] *Bees Refusing to Enter Sections.*—I have a frame-hive from which two swarms have issued this season. After the swarms came off I put in three more frames, so that the hive now contains fifteen. I also put a rack of 1-lb. sections on at same time. The bees seemed to be working well,

yet they were not filling the sections; in fact, they did not come up into them at all. I thought they might be filling the three new frames I gave them, but on making an examination recently I was astonished to find that, notwithstanding my having filled the frames with foundation the bees had never made a start on them. The old frames, too, were almost empty—no brood in any of them—and only an inch or two of honey (sealed) at the top of each. 1. Can you give me a reason for this? Do you think the hive will be queenless? I may say the hive was a swarm last year, and it is a very strong one, though on looking over the frames I found a considerable number of drones. After the swarms came off this year I observed a number of drones, if the days were fine, flying about the entrance door of the old hive, and I killed a dozen or two every day for a few days. 2. The bees are of the common black variety, and I have been thinking if the hive were queenless I might try an Italian queen. Will you kindly inform me what I ought to pay for a good one?—MILLER, *Ayrshire, July* 8.

REPLY.—1. The fact of *two* swarms having come off would account for bees not going into the rack of sections. 2. The young queen may have been lost, but only an examination can settle the point. For price of Italian queens see advertisement column in our issue of May 19, or apply to a dealer.

[2067.] *Transferring Bees from Old Hives.*—I should be very grateful for your advice in the following circumstances. A very old hive, with black combs, built or braced together, was brought me on June 7, full of bees. I had by me an empty hive, so I fitted the frames with comb foundation, hoping to get the bees into it. I could only remove the old black combs from the miserable hive singly, as the brace-combs caused them to come to pieces in raising the frames. Some of them, however, did not quite break away, but the man wanted the frames back, and as I had only the one brood-box, my only chance of retaining the bees was to put two shallow-frame boxes together, on the top of the brood-box already prepared for the bees, and so make a box deep enough to accommodate the standard size brood-frames from the old hive brought me. I hoped to drive the bees down into the frames below. But they would not be driven down, so the combs and brood are in the top of the hive. 1. How shall I go on to move them below? 2. Will the bees work down into the bottom brood-chamber when the upper chamber is filled with honey, for the hive will not hold another box of any sort, it is quite full to the quilts. The bees have worked well, rather contrary to my expectation, for I quite expected them to return to their old garden, which is only 150 yards away, but they have not done so.—G. B., *Herts, July* 7.

REPLY.—1. Shake the bees off old combs on to the new ones, or on to a large board in front of hive, having first removed the two shallow-frame boxes and old combs off the new brood-box. 2. Yes, but it is uncertain when they will take possession of lower hive.

[2068.] *Re-queening "Wells" Hives.*—I have received much help from reading your journal; will you please put me right in the following? I am almost a beginner in bee-keeping, but am working a "Wells" hive, and by the end of this season the queens will be old. I have not the time nor the scientific abilities to go into queen-rearing, and I thought I would proceed as follows: Buy two lots of driven bees this autumn from skeps which have swarmed, well feed them up, and winter in skeps. Next spring I would overhaul the "Wells" hive, and take out the two queens and cover down. Next day remove the queen-excluder—would you winter with a queen-excluder on?—put a good quilt on the frames with two holes cut in it, and fit over the two sets of bar frames separately, then put the skeps on containing the autumn-driven bees, and cover up as warm as possible. Do you think each skep, with its queen and bees, would unite in harmony with those in the frames below, which would have been queenless a day? If I am anywhere near the mark a few useful hints from you would be thankfully received.—A. B. C., *Coleford, Bath, July* 9.

REPLY.—Remove excluder zinc for winter. If bees in skeps are strong in spring your method would succeed if carefully carried out, but it would be better to leave the bees for forty-eight hours without a queen, and then place the skeps above.

[2069.] *Queens Laying.*—1. Is there any way of telling, after a young queen has started laying, whether she has been fertilised or not? 2. In the event of not being able to tell, would the brood of a laying worker be capable of identification?—W. F. H., *Croydon.*

REPLY.—1 and 2. The fertilisation or otherwise of young queens is ascertained by noting the capped brood after the larvæ is sealed over. In case either of an unmated queen or a fertile worker, all eggs laid will produce drones only, even though deposited in worker cells. The protruding cappings of cells containing drone larvæ are readily distinguished from those of workers, the latter being nearly flat, while the drone brood is convex in form and stand out from face of comb.

[2070.] *Removing Vicious Bees.*—I bought a swarm on May 25, and have now a super on the hive with honey in it. They are situated in the most pleasant spot on my grounds; and, in consequence of the bees being extremely vicious, I desire to know whether, by dividing the colony at the close of honey flow, I shall be able to remove them about 50 yards away? You will see by rough sketch enclosed locality of bee-hive and position I should like them removed to. I may add that it is a matter of utter impossibility to

do 50 yards at a time, on account of it being hilly, with steps and all sorts of hindrances, such as shrubberies, &c. I most certainly do not want them there another summer, having had my eyes swollen up, &c., on only walking past them. We dare not sit on a seat opposite to them.—A. J., *Southport, July* 11.

REPLY.—There will be no difficulty if bees are left where now located until winter, when they may be moved without loss.

Echoes from the Hives.

Lowestoft, July 8.—It has been a very bad time in this locality for bees. Three weeks back I had a few sections sealed, but since then not drawn out a single comb until this week now they have the "swarming fit." Yesterday (the 7th) was the best day for honey we have had this summer. I have not taken any honey of the hives yet, but the supers are crowded with bees. In looking over one hive to-day I find the bees have done more work this week than they did during the whole of June.—L. W.

Mundham, Chichester, July 12.—I have just taken off my first "No-bee-way" super. Result: — Ten finished sections; weight, 10 lb. 4 oz. The heaviest weighed over 1 lb. 1¼ oz. The lightest was ½ oz. under 1 lb. I used Garner's registered dividers and sections, 4¼ in. by 4¼ in. by 1⅞ in. They come out clean.—G. F.

METEOROLOGICAL REPORT.

METEOROLOGICAL OBSERVATIONS TAKEN AT DUDDINGTON, STAMFORD, NORTHANTS, FOR THE WEEK ENDING JULY 9, 1898.

1898.	Bar. in.	Tem. 9 am deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in.
July 3	29·92	55·9	64	49	15	56·0	—
,, 4	30·03	57·0	64	45	19	53·8	—
,, 5	30·24	57·5	64	41	23	51·7	—
,, 6	30·27	64·2	73	51	19	62·8	—
,, 7	30·20	63·9	70	55	15	62·0	—
,, 8	30·20	59·5	69	49	20	58·3	—
,, 9	30·28	53·0	62	43	19	51·8	—
Means	30·16	58·7	66·6	48·0	18·6	56·6	*Nil.

* Total.

For the week ending July 2 the mean temperature, viz., 57·0, was 1·4 below, and the rainfall, viz., 0·70 in., was 0·28 in. above the respective means for the week.

FRED. COVENTRY.

Bee Shows to Come.

July 14, 15, and 16, at **Witton Park, Blackburn.**—Bee and Honey Show, in connection with the Royal Lancashire Agricultural Society's Exhibition.

July 14 and 15, at **Lincoln.**—In connection with the Lincs. Agricultural Society. Schedules for the Bee Department from R. Godson, Hon. Sec. Lincs. B.K.A., Tothill, Alford.

July 19, at **Wellington (Salop). Wellington and District B.K.A.** First annual show of honey, bees, and appliances in connection with the Wellington Horticultural Society's Show. Seven open classes. Entry forms, &c., from R. Holland, Hon. Sec., Haygate-road, Wellington, Salop. **Entries close July 9.**

July 20, 21, 22, at **Roundhay, Leeds.**—Yorkshire Agricultural Society's Show. Liberal prizes for hives, honey, &c.

July 26, in the **Parish Hall, Pembrey** (Carmarthen).—Honey Show, in connection with the Horticultural and Industrial Exhibition. Bee manipulations, with lectures by Mr. E. Thornton, Hon. Sec. Glam. B.K.A. Seven classes for honey, including three open classes, for three 1-lb. sections, three 1-lb. jars, and for single jar of granulated honey. **Entries close July 19.** F. J. Morgan, Hon. Sec. Horticultural Society, Pembrey.

July 28, at **Cambridge.**—Honey show in connection with the Cambs. and Isle of Ely Agricultural Society. **Open class for single 1-lb. jar of extracted honey.** Schedules from C. N. White, St. Neots.

July 30.—In connection with Helsby (Cheshire) Flower Show, three open classes and single jar competition. Schedules from Dr. Briant, secretary, Helsby, Warrington. **Entries close July 23.**

August 1, at **Beddington, near Croydon.**—Surrey Bee-keepers' Association Annual Show, in connection with the Beddington, Carshalton, and Wallington Horticultural Society. Additional open classes. Increased prizes and medals, including Open Class for Single 1-lb Jar and Single 1-lb. Section with free entry. Schedules from F. B. White, hon. secretary, Marden House, Redhill. Entries must be made before July 16.

August 1, at **Melton Constable Park.**—North Norfolk B.K.A. Annual Show. Three open classes. Schedules from C. J. Cooke, hon. sec., Edgefield, Melton Constable. **Entries close July 25.**

August 1 and 2, at **Althorp Park, Northampton.**—Northants B.K.A. Honey Show, in connection with Horticultural Society's Show. Several open classes. **Entries close July 26.** Schedules and all particulars from R. Hefford, Kingsthorpe, Northampton.

August 8, at **Church Gresley.**—Honey Show in connection with the Floral and Musical Fête. The Derbyshire B.K.A. Silver Medal and money prizes for six sections and for six 1-lb. jars honey. Open class for 1-lb. section and 1-lb. jar—1st prize, £1; 2nd, 10s. Entry forms from T. Legge, Secretary, Mushroom-lane, Church Gresley. **Entries close August 1.**

August 10, at **Clutton, Bristol.**—Somerset and South Glos. B.K.A. Annual Show in connection with Clutton Horticultural Society. Six open classes. Schedules from Miss H. Dawe, Long Ashton, near Bristol.

August 10, at **Marlow**, in connection with the Marlow Horticultural Society. (Under the auspices of the Berks Bee-keepers' Association.) Show of Hives and Appliances, Honey, Bees. Nine classes. Excellent prizes offered. Schedules from A. D. Cripps, Esq., Hon. Sec., High-street, Marlow. **Entries close August 6.**

August 11, at **Keele, Staffs.**—Honey show, in connection with the Keele Agricultural and Horticultural, Dog, and Poultry Shows. Schedules from W. A. Benson, Secretary, Silverdale, Staffs.

August 13, at **Dumfries.**—In connection with "Band Contest," the South of Scotland B.K.A. will hold a honey show as above. **Two open classes for "Three's."** Schedules from Mr. J. Kerr, Hon. Sec., Douglas-terrace, Dumfries. **Entries close August 6.**

August 13, at **Stoke Prior, near Bromsgrove.**—Honey Exhibition in connection with the Stoke Prior Horticultural Society. Seven open classes. Three "Gift" classes of two 1-lb. sections of honey, two 1-lb. jars extracted honey, and single 1-lb. jar candied honey. Liberal prizes. Schedules, entry forms, &c., from Percy Leigh, "Beemount," Stoke Prior, near Bromsgrove, Worcestershire. **Entries close August 6.**

August 15 and 16, at **Felling.**—Northumberland and Durham B.K.A. honey exhibition, in connection with the Felling Flower Show. Schedules from T. Russell, 17, Stephenson-terrace, Felling. **Also at**

Gateshead, August 29 and 30.—In connection with the flower show. Schedules from T. H. Armstrong, 111, Prince Consort-road, Gateshead. **Entries close August 20.**

August 17 and 18 at Dover.—In connection with the Dover Horticultural Society at Dover College Grounds. Additional open classes. Increased prizes and medals. Schedules from H. W. Brice, Hon. Sec. Kent and Sussex B.K.A., Dale Park, Upper Norwood, S.E.

August 17 and 18, at Blackpool.—Honey show in connection with the Blackpool and Fylde Horticultural Society, under the auspices of the L. & C. B.K.A. Schedules from C. E. Riding, Secretary, 9, Central Beach, Blackpool. **Entries close August 8.**

August 17 and 18, at Ince Hall, near Chester.—Open classes for six 1-lb. jars, three 1-lb. granulated, and single 1-lb. jar. Schedules from the flower show secretary, Ince, near Chester

August 17 and 18, at Shrewsbury.—Shropshire B.K.A. Annual Show of Honey, "The Quarry," in connection with the Horticultural Fete. Schedules from Jno. Palmer, Hon. Exhibition Secretary, 17, Brand-lane, Ludlow.

August 18 and 19, at Harrogate.—Knaresboro and District B.K.A. Show of Honey, in connection with the Harrogate Horticultural Society. Schedules from C. B. Elmhirst, Secretary K. & D.B.K.A., Farnham, Knaresboro'.

August 24, in Neston Park, Wilts.—Honey exhibition in connection with the Atworth and District Horticultural Show. Seventeen classes with liberal prizes, including single 1-lb. jar and single section, with free entry. For particulars apply to J. P. Inkpen, Sec., Atworth, Melksham. **Entries close August 20.**

August 27, at Windsor.—Windsor and District Branch, Berks B.K.A. Bee and Honey Exhibition, in connection with the Liberal Club Annual Flower Show. Schedules from J. Hyde, jun., Hon. Sec., 55, Bexley-street, Clewer. **Entries close August 18.**

August 27, at Withington, Manchester.—Honey Show in connection with the South Manchester Horticultural Society. Seven classes for honey, including open class (entry free) for single 1-lb. jar. Schedules from F. H. Taylor, Birch Fold Cottage, Old Hall Lane, Fallowfield, Manchester. **Entries close August 13.**

August 31 and September 1, at Burslem, Staffs.—Annual Bee and Honey Show of the Staffs. B.K.A., in connection with the Staffordshire Agricultural Society. Sixteen classes for bees, hives, honey, and appliances. **Four open classes,** including class with three prizes for 1-lb. section, 1-lb. jar, and 4 oz. beeswax. Schedules from Mr. J. P. Jones, Sec. Agricultural Society, Newcastle, Staffs. **Entries close August 6.**

September 7 and 8. At the Cattle Market Derby.—Derbyshire B.K.A. Seventeenth Annual Exhibition of Bees, Honey, and Appliances, in conjunction with the Show of the Derbyshire Agricultural Society. Liberal prizes. **Eight open classes.** Schedules from F. Walker, Hon. Sec. D.B.K.A., 64, Gerard-street, Derby. **Entries close August 31.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

R. H. C. (Cowling).—*Virgin Queen Cast Out.*—The queen sent is a young unmated one that has probably never been on the wing. Judging from the details given as to watching for swarm, one has evidently issued unseen, and the swarm has either gone off altogether or returned to the hive after losing its queen. In any case, by the time these lines are in print the stock will probably have swarmed again; but if not, all surplus queens will be destroyed, and the stock go on all right.

H. L. (Beeston).—*Races of Bees.*—Both samples of bees show a slight tinge of foreign blood, but nothing more than appears in a great majority of the common bees of the country.

TYRO (Worcester).—*Preventing Swarms.*—1. To place excluder zinc over hive entrances to prevent swarming is to court disaster, so, if you value our advice, don't try it. It is not worth taking up space to explain why this is so, but all practical men admit it. 2. Only experience will enable you to "tell the age of queen by looking at her;" and in any case it is merely a matter of judgment. 6. In gauging the amount of honey in combs for wintering on, bear in mind that about "two superficial feet" of sealed stores is enough, and judge accordingly.

Honey of '98.—A correspondent writes—under date June 24—to say, "Mr. John Bell, of Galashiels, has this week taken 90 lb. of fine flower honey—an unusual occurrence here so early in the summer."

Referring to prize hives at the recent "Royal" Show, "D. D. B.," (Hull), writes: "Will you allow me to draw your attention to the omission on p. 252 of the name of make of hive in Class 345 with the Louvre lift. It may be a very valuable hive for me, who happen to be located thirty to thirty-five miles from moors." In reply, we beg to say the omission of Mr. Meadows' name before the words "first prize hive" (five lines from bottom of first column on p. 252) was a printer's error, but the name appeared all right in prize list printed the previous week (see p. 241). We therefore hope no harm followed.

J. L. (Skipton).—*Varieties of Bees.*—Both bees sent show traces of Carniolan blood, but so slight that we may call them the common bee of this country.

E. A. M. (Kidderminster).—*Varieties of Heather.*—Heather bloom sent is that of *Erica tetralix*, and of no value to bee-keepers.

G. L. (Sherborne).—*Source of Honey.*—We rather think the honey sent is from beans and the charlock you name as growing close by. It is fair in quality, but will only bring a low price on the market if sold while liquid. If well ripened, it would sell better when granulated.

D. McG. (Oban, N.B.).—*Queen Cast out of Hive.*—Queen sent is an old one. By these lines are in print the bees will probably have a young laying queen.

T. Y. P. (Kilmarnock).—*Immature Bees Thrown out of Hive.*—1. The immature dead bees have died in the cells, no doubt through being left to chill during the cold weather a few weeks ago. Their being cast out now simply indicates that the cells are needed for breeding purposes. 2. No doubt the queen would be fed by the bees of the accompanying swarm.

DRAPER (Margate).—In one cell of comb we found distinct traces of foul brood. It can, however, be only slightly affected judging from sample.

D. W. E. R. (South Wales).—1. Drones have been in some cases killed off unusually early this year owing to the lack of honey income. 2. The only way in which from this distance we can account for a hive, thought to be dead, now alive and working well is by suggesting that a strong swarm has taken possession.

F. A. W. (Newport).—1. The bulk of dead brood in comb is "chilled" only, but there are unmistakeable signs of disease in two cells of comb received. 2. If the other stocks are in no worse condition than those from which samples were cut there is every chance of success in treating according to instructions mentioned.

W. B. W. (Torquay).—*Ants in Hives.*—The fact of "ants being seen running round the edge of super, each carrying a grub," denotes the close proximity of the nest. If this is discovered, pour a pint of paraffin oil into it to kill the intruders. The smell of naphthaline stops ants from harbouring about hives, but more drastic means are necessary to put an end to their nests.

A. S. (Ballisodare).—Comb is badly affected with foul brood. Your resolve "to destroy the whole colony, if affected, for the sake of the sixteen other hives surrounding it" is a very wise one.

Special Prepaid Advertisements.

Twelve words, Sixpence: for every additional Three words or under, One Penny.

BEES.—NATURAL SWARMS, 10s. 6d. each. Boxes to be returned. E. LONG, Fulbourne, Cambs. W 2

TWO more SWARMS FOR SALE, 10s. 6d. each. Prompt delivery. Packed free on rail. LEMIN, 294, Hoe-street, Walthamstow. W 18

FERTILE ENGLISH QUEENS, 5s. 6d. each, post free, in travelling cage. — JEMEISON, Bee Specialist, Dringhouses, York. W 26

NEW HONEY LABELS and LACE PAPER, each 7d. per 100 or 2s. per 500. Free.—GRIMBLY, Minster, Ramsgate. W 25

LIGURIAN QUEENS.—Imported.—Large consignment to arrive this week, 6s. 6d. each. WEBSTER, Binfield.

STRONG NATURAL SWARMS (end of May or early in June), including box, 9s. ANWYL, J.P., Llugwy, Machynlleth.

FINE SELECTED ENGLISH QUEENS, tested, 5s. each, sent in introducing cage. W. WOODLEY, Beedon, near Newbury.

WANTED, WELLS HIVES. Good exchange offered. HON. SEC., Beekeepers' Association, Stratton, Swindon.

WANTED TO PURCHASE, new season's Honey-comb. Best quality. In sections. Apply, T. SMITH & Co., 17, Cambridge-street, London, W.

SMALL SWARMS with young fertile queens for building up or uniting to queenless stocks, 5s. 6d. case included, on rail. Fertile queens 3s. 9d. each, delivered. ALSFORD, Expert, Blandford.

PURE HONEY in 12 lb. tins at 6½d. per lb. DAVID HANCOX, Deddington, Oxon.

Prepaid Advertisements (*Continued*).

QUEENS, choice, special-raised, guaranteed satisfactory. Fertile 3s. 6d., virgins 2s. Post free in introducing cage. Send for circular.—"Beecroft," Ashford, Staines. W 23

THOS. J. HORSLEY, has comfortable APARTMENTS for brother bee-keepers visiting the Isle of Man.—Merridale House, Empire-terrace, Douglas, Isle of Man. W 27

QUEENS, Stocks, Nuclei, and Swarms. Queen raising a speciality. Eleventh season. Address, Rev. C. BEERETON, Pulborough, Sussex.

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. Neat Patterns. W. WOODLEY, Beedon, Newbury.

ORDERS BOOKED for DRIVEN BEES at 1s. 6d. lb., supplied in early August; also some satisfactory swarms immediately, 10s. 6d. each. Boxes returned. Satisfaction guaranteed. Deposit system. SPEARMAN, Colesbourne, Andoversford. W 22

BRICE'S RELIABLE QUEENS. Well-known strain, one quality, one price. Mated tested Queen, 5s. 6d.; Virgins, 3s. each. Post free in my perfected travelling and introducing cage. Quality and safe arrival guaranteed. HENRY W. BRICE, Dale Park-road, Upper Norwood.

A FEW COLONIES of BEES FOR SALE, on six to eight combs, with selected '98 Queens reared from my best stocks, 10s. 6d., 12s. 6d., and 15s. each. Buyer may send travelling box, or may pay for hive, or return carriage paid. Also 1,000 Brussells Sprout plants, "Sharp's Standard," for Sale, 6d. 100. W. LOVEDAY, Hatfield Heath, Harlow, Essex.

SELF-CLOSING HONEY TINS.

1 lb., 12s. gross, 1s. 2d. doz.; 2 lbs., 20s. gross, 2s. doz.; 4 lbs., 30s. gross, 3s. doz.; 7 lbs., 45s. gross, 4s. 6d. doz.

Apply to **HUNT & HUNTLEY,**

2, Bridge-street, Worcester.

YORKSHIRE AGRICULTURAL SOCIETY.

PATRON.—H.R.H. THE PRINCE OF WALES, K.G.
PRESIDENT.—ERNEST W. BECKETT, ESQ., M.P.

MAGNIFICENT EXHIBITION OF

STOCK AND IMPLEMENTS, &c.,

AT LEEDS,

WEDNESDAY, THURSDAY, and FRIDAY,
JULY 20th, 21st, and 22nd, 1898.

JUMPING COMPETITIONS, MILITARY BAND.

ADMISSION.

Wednesday,	9 a.m.	to 6 p.m.	Half-a-Crown.
,,	6 p.m.	to 8 p.m.	One Shilling.
Thursday,	8 a.m.	to 8 p.m.	One Shilling.
Friday,	8 a.m.	to 6 p.m.	One Shilling.

Season Tickets, Half-a-Guinea each.

MARSHALL STEPHENSON, Secretary.
York, July 9th, 1898.

THE YORKSHIRE SHOW.

STAND 233.

BEE-KEEPERS attending this Show at Leeds are invited to see my Stand, No. 233, where I shall have on view different kinds of up-to-date Hives, Extractors, and all Apiarian requisites. Special attention is called to our "Improved Record" Hive, at 9s. 6d., to intending purchasers of Hives. This alone is worth coming to see.

Testimonial just received, entirely unsolicited:—

"Slatton, July 2nd, 1898.—Sir,—Please send me three more 'Improved Record' Hives. I consider this Hive one of the best and cheapest going for all purposes.—Yours truly, A. MORTIMER."

Catalogue of 44 pages on application.

W. SHEPHERD, Manufacturer, Oxton, Tadcaster.

Editorial, Notices, &c.

BEE AND HONEY SHOW AT LINCOLN.

IN CONNECTION WITH THE LINCS. AGRICULTURAL SOCIETY.

This show, held at Lincoln on July 13, 14, and 15, was favoured with beautiful summer weather, and the attendance was well above the average. The bee and honey department, under the management of the Lincs. B.K.A., was disappointing, for, after receiving 102 entries, barely half of them were staged, the recent weather being all against honey gathering in these parts. The quality of the exhibits, too, with a few exceptions, were not up to the usual high standard. The first two prizes for sections were awarded to the no-bee-way sections, which shows that these new sections are at least quite equal to those of the older make. Mr. W. P. Meadows, fresh from his recent victories at the "Royal," was again awarded first prizes in each of the hive classes, the new idea of a case of shallow-frames below the brood-nest and flight-hole being closely examined by local bee-keepers, who seemed much pleased with the arrangement. Lectures were given in the Association's bee-tent, Mr. Meadows and Mr. H. O. Smith doing duty on the several days of the show. Messrs. R. Thorpe and F. J. Cribb acted as judges, the latter gentleman also conducting an examination for the B.B.K.A. third-class certificates, when three candidates presented themselves.

AWARDS.

Collection of Honey.—1st and silver medal, A. W. Weatherhogg, Willoughton.

Twelve 1-lb. Sections.—1st and silver medal, W. Patchett, Thoresway; 2nd, A. W. Weatherhogg; 3rd, Tom Sells, Uffington; 4th, Mrs. Emerson, Lincoln.

Twelve 1-lb. Jars Extracted Honey (open).—1st, H. Pears, Mere; 2nd, Rev. H. F. Goffe, Thoresway; 3rd, Miss A. C. Sowerby, Cuxwold Hall; 4th, R. Godson, Tothill.

Twelve 1-lb. Jars Extracted Honey (county only).—1st and silver medal, F. S. Smith, Louth; 2nd, W. Patchett; 3rd, Miss A. C. Sowerby; 4th, H. Pears.

Six 1-lb. Jars Extracted Honey (cottagers only).—1st, W. Patchett; 2nd, A. Barnes, Lincoln; 3rd, F. G. Davy, Legbourne; h.c., T. S. Holdsworth, Kirton-in-Lindsey.

Twelve 1-lb. Jars Granulated Honey (open).—1st, F. S. Smith; 2nd, Rev. H. F. Goffe; 3rd, T. S. Holdsworth; c., W. Patchett.

Bees' Wax (open).—1st, Rev. Sidney Smith, Wheldrake Rectory, York; 2nd, R. Godson; 3rd, Tom Sells.

Two Shallow-frames of Comb Honey.—1st, R. Godson; 2nd, Dr. P. Sharp, Brant Broughton; 3rd, Rev. H. F. Goffe; h.c., A. W. Weatherhogg.

Observatory Hive.—1st, R. Godson; 2nd, J. Emerson, Lincoln; h.c., B. C. Blackburn, Bellinghay.

Collection of Appliances.—1st, W. P. Meadows, Syston; 2nd, W. R. Garner, jun., Dyke.

Hive (price not over 25s.).—1st, W. P. Meadows; 2nd, W. R. Garner, jun.; 3rd, W. P. Meadows.

Hive (price not over 12s. 6d.).—1st, W. P. Meadows; 2nd, W. R. Garner.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[3327.] The beautiful summer weather since the advent of July has reversed the order of things in the apiary, though it came too late in this district to make up for the disastrous weather of June. All through that month flowers from which the principal harvest of the year is gathered were in full bloom, but yielded nothing to the bees. The past fortnight, however, has been very cheering to the fast drooping hopes of the disappointed bee-keeper, as the season sped past—and he saw the scythes and mowing machines cutting down relentlessly day after day the heavy crops of bloom from whose nectaries we had hoped to secure a rich harvest of honey. Then came the welcome spell of warm, sunny weather, and the bees went to work with a will; hive entrances showing that they were peopled to the full. Swarms came off in brisk haste; extra racks and surplus-boxes were wanted on the hives; nucleus colonies had to be started, queen-cells watched and attended to as required; swarms to pack and send off to customers, whose patience was in some instances nearly exhausted in waiting for them. So that we, *i.e.*, the wife and I, were busy from early morn to dewy eve.

And now, although St. Swithin's day has passed, the "Christening of the Apples" is still postponed, the barometer is steady between "fair" and "set fair"; bees are also steady at work on the limes, which I am sorry to say are not in our district overburdened with blossom this year. We have also vetches and a sprinkling of white clover—the latter now beginning to flag for want of moisture—and some charlock (wild mustard). We have also a stunted second crop of trifolium, on which I saw many humble bees, but rarely a hive bee, in a large field. I felt very sorry for our friend Mr. Brice having to pack up his empty surplus cases for another year, and wondered if he was induced by the spell of fine bee-weather to

put any of them on again. If so, I trust he may be rewarded as Mr. Allen Sharp was last year by securing a thousand sections, or half a ton of extracted honey.

Selling Price of Honey for '98.—The price of honey this season, I think, ought to be considered, and I hope your readers will not sacrifice their small harvest for the betterment of the middleman only, but hold out for a fair price consistent with the quality of honey likely to be put on the market. We have not yet reached that position in trade when we can get market quotations week by week. I myself hope that by a mutual interchange of opinion between our largest honey-producers we may before very long be able to secure a fairly uniform price to the producers. One thing, however, is certain, viz., our united output would be but as a drop in the ocean if the trade was properly opened up and the consumption of honey as food increased to the extent it ought to be in view of the well-being of the community. I hear that one dealer has this year raised his price for sections, unscraped and unglazed, 2d. each, even though they are poor in colour and badly filled. Nor do I think the rise of 2d. each this year anything unreasonable; in fact, considering the very short crop, it is a fair and proper advance under the circumstances. It would be interesting to know what others think?

The use of lard-buckets as domiciles for bees, mentioned by several of your correspondents lately, ought, in my opinion, to be a thing of the past—far better put the poor bees in a straw skep. Fancy a stock of bees having to work and live in an inverted lard-pail, impervious to air at the first by tongued joints, and made doubly so by the complete saturation of the wood through having boiling lard poured into them when filled!

Swarms Losing Weight in Transit.—The question of swarms losing weight in transit has been the bone of contention again during this swarming season. I have had one or two grumblers myself, who thought they were not getting their money's worth, because of not receiving at the end of the journey the full weight of the bees when sent off from the starting-place. But do as we may, the matter cannot be adjusted to satisfy both parties to the transaction. The bee-keeper will have to give full measure pressed down and running over, and then present 1 lb. of bees gratis if the weight is to tally at the end of a long one and a half to two days' journey, or the buyer will have to be satisfied with the swarm on arrival.—W. Woodley, *Beedon, Newbury.*

SWARMS FROM "WELLS" HIVES.

A BEGINNER'S EXPERIENCE WITH QUEENS.

[3328.] I am quite a beginner at bee-keeping, but imagine that the following experience is a little out of the ordinary:—On Thursday, July 14, a swarm issued from one end of my "Wells" hive (weight, skep, 4 lb.; swarm and skep, 12½ lb.); when "hived" and settled down I threw the swarm on some boards in front of the hive prepared for their reception. While the bees were running in, I saw the queen take wing and fly away out of sight. Shortly after I observed a queen (which I fancied looked longer in the body than the lost one, and put it down in my mind as the old queen) run in with the other bees. I picked up subsequently a dead queen where they had swarmed, and two others opposite the entrance of the "Wells" hive they had swarmed from. Next day I examined the "Wells" hive, beginning at the compartment the swarm came from, when I soon found queen cells, and I eventually cut out about twenty, five being in one clump, three in another, and several pairs. I put the cells as removed on a little table I have at hand on these occasions, and I distinctly heard a queen "pipe" while I was in the act of cutting out one cell. Shortly afterwards I noticed a stray bee feeding one of the queens in a capped cell; she had protruded her tongue through a small hole in cell cap and was evidently taking the food. Shortly afterwards we noticed another one eating her way out, and in about half-an-hour three queens had hatched out, all apparently strong and complete in every way; dark coloured and full sized. They ran about very strongly, and one of them took wing several times; I put them up with a few bees in matchboxes. I then turned my attention to the other compartment of the "Wells" hive, and found that the dummy had got slightly displaced, though I had fitted it very carefully previously, and made it bee-tight—indeed, almost air-tight—around the edges. The consequence, of course, was that the queen on that side had evidently been killed about twenty-two days before, one cell being occupied by a drone grub, and the remainder of the ten frames were crammed with honey and pollen—especially the latter. On removing the whole brood-nest bodily, I found that the "non-swarming chamber" of twenty shallow-frames underneath had not been started in any way. I had taken 25 lb. of extracted honey from this hive a few days ago, and four more shallow-frames came off on the 15th capped ready to extract.

You will see from the above that this large swarm came off after at least ten days of brilliant hot weather—evidently accompanied by several queens. The next day they looked very like swarming again—hence my inspection of the whole hive. I saw the queen to-day—July 17—in the hived swarm, and believe her still to be the old (imported) Ligurian queen. She must have been very lucky to have escaped with several young queens about. I have put all the remaining bees into a "W.B.C." hive. I also found on the morning of the 15th another dead queen that had been thrown out of the hive occupied by the swarm, and, besides finding one or two promiscuous dead queens about, found on the 17th, another, apparently a virgin queen, walking

about, evidently rather weak, on the top of the felt covering inside an adjacent "W.B.C." hive.—G. C., *Ainsdale, July* 17, 1898.

BEES AND HORSES.

[3329.] My experience with bees and horses may assist alarmist members of our craft or others in framing a reply to what appeared on p. 272 last week.

Although I live in the country, as the saying goes, "five miles from everywhere," I have only a very small garden, and last winter, for the convenience of myself and neighbours, I moved my bees to a piece of ground in a field, where I hoped they would be free from disturbance, and would not be in the way of anything or anybody. The ground on which my apiary is established is a corner running out from the straight land on the field side, or open side. I have a strong row of scarlet runners on the north, and there is a good hedge on the west and south sides; but there is very little hedge next the meadow, which is there about 3 ft. higher ground than the part on which my apiary is placed, and I have not been able to grow anything as a screen on that side. A week ago, knowing that the grass had to be mown, I saw the man engaged to do the work and asked him to let me know a day or two before when he was going to start work with the machine; I also told him that if he began, on starting to mow in the morning, he would be some distance from the bees by the time the latter got well to work. Last Friday, July 8, a very hot day, the men and horses came to mow the grass within a few feet of my hives. The machine was not started till about 8.30, when the sun was high and hot; and, moreover, was I not informed of their intention to cut the grass that day at all. I felt certain there would be trouble, and was getting very anxious. Well, no sooner had one of the men approached close to the hives to work than a bee stung him. I was standing by, veil in hand; this I gave him to put over his head for protection, but he kept it in his hand, using a handful of grass to fight the bees, which, of course, made them very angry, as striking at bees always does. I gave all possible assistance in cutting the grass near the bees, and as the men kept working close to where the hives stood, I undertook to lead the horses, lending the man in charge of the "mower" my veil. I got several stings myself, which I do not mind, and the horses were stung now and again. After a time a storm came on, the bees rushing home in thousands, and as the grass being mown was directly in their line of flight, a large number of bees struck the horses and some stung them. In consequence they soon became unmanageable, but, fortunately, by the exercise of all my strength, I was able to check them, while the man stopped work and freed himself from the trammels of the machine itself.

Having had some previous experience in this line, I was able to turn it to account; but that half-hour of exertion and excitement told upon my far from strong system. Of course, the mowing had to be abandoned for the time, and I eventually got out of the difficulty by giving the man a trifle to mow the grass in the evening, and assisting myself, as far as possible, in doing it; I therefore helped the man in the evening, and we rose at daybreak and finished the mowing the following morning without further incident of any moment. I am glad that the hay was carried yesterday without trouble. I found that my presence with the men, and the loan of my veil to such as had to go near my apiary, and a small present to those who were stung—without placing myself under any obligation—restored perfect confidence, and I hope people will profit by the lesson they have been taught by the bees.—Wm. Loveday, *Harlow, Essex, July* 12.

SWARMS AND SWARM PREVENTERS.

[3330.] I have in use one of Mr. Brice's Swarm Preventers, with reference to which I enclose you a quantity of pollen brushed off the alighting board of hive to which the "preventer" is attached. The pollen, I presume, has been knocked off the bee's legs on getting through the perforated zinc. What I wish to know, however, is, will there be any danger to imprisoned queens, for I am told that bees may kill the queen if she cannot fly off with the swarm, as happened on Monday the 4th inst.? After issuing, the swarm circled round in the air for ten minutes and then returned. I ask (1), Should the old queen have been killed and a new one raised, and will the latter remain a virgin? At the end of May I examined my two hives, which were literally crammed with bees, and from the one mentioned above I cut out the two queen cells found in the hive and gave them to a friend who was assisting me, together with a frame of drone-brood from same hive, substituting a full sheet of foundation, and also giving a rack of sections, I then hoped to have stopped swarming; nevertheless, I attached the "Preventer" on June 20. We also cut out five queen cells from No. 2 hive and removed two frames of drone-brood, giving sheets of foundation instead, and also adding eight shallow frames in a surplus box to make all safe; but on June 18 No. 2 sent out a swarm, and on the 26th it sent out a cast; it also sent out a second cast on 30th. The latter is in an American lard tub, and both are doing well. On Sunday the 3rd No. 1 swarmed, and in less than five minutes returned this happened again on the 6th. There was no excluder under shallow-frames, so queen could use them. The swarm of June 18 from No. 2 was hived in a skep, and on lifting this on the 4th inst. I found it completely filled. (2) As

the bees cannot be left therein, how can I transfer to a frame hive? This also applies to the lot in lard tub. Will you kindly help me in my difficulties?

I had a curious experience when having a swarm on June 24. A fair sized vagrant swarm of black bees clustered about 10 ft. from the ground in a holly bush, three yards from where I was operating. Suddenly the cluster began to break up, and by degrees the vagrants joined the swarm I was hiving, and followed the bees in. I was naturally anxious about the queen of my swarm, a choice Italian, but yesterday I found her safe and well, having presumably killed the vagrant queen.—SAXON, *Llanberis, R.S.O.*

[As we understand the matter the "preventer" fulfilled its purpose and retained the swarm from No. 1 hive. Our correspondent, however does not seem to quite grasp the proper use of the appliance. When a swarm issues, then returns, and is retained, together with queen, in the receptacle prepared for it, the swarm should be removed and hived. On the other hand, if a swarm is not wanted, the hive is opened, queen-cells removed, and the swarm, with old queen, allowed to re-enter the hive. The main point in the appliance referred to is securing the queen, and thus preventing the loss of swarm in the absence of the owner. Should young queens hatch out, of course complications may arise in more ways than one, because many unmated queens are so slender that they can pass through the excluder zinc. The appliance does not act quite automatically at present, but needs some attention so far as casts or second swarms are concerned. Its purpose, as we understand it, is, as stated above, to prevent the loss of prime swarms, and to periodically relieve the congested condition of hives by setting free the surplus drones. (1) If the old queen has been killed, remove the appliance at once, otherwise the young queen may be prevented leaving the hive for mating purposes. (2) Bees must be driven in the ordinary way. As to loss of pollen by bees passing through excluder zinc, in most districts bees collect far more pollen than is desirable, and the loss is rather an advantage than otherwise.—EDS.]

BEES REMOVING IMMATURE BROOD.

[3331.] As a proof that bees do nothing by invariable rule, I would mention that one of my best stocks on July 13 commenced to remove a large quantity of immature brood in various stages from the cells and bring them out of the hive. Many of the pupæ were so near the imago state as to be able to move upon the ground. This went on without any apparent cause for two days and there was quite a heap of this brood, and as decay set in I had to cover it up with dry earth, being unable to remove the heap from among the grass stubble. I was unable to make an examination of the hive for two days, and then, so far as I could judge, there was absolutely no cause for this freak. I therefore concluded that the bees were annoyed by having idleness forced upon them, as the income was failing. This stock had killed very few drones, and there were very few, if any, drone pupæ cast out. I found abundance of food in store, and there was a super containing 15 lbs. of honey on the hive. They also had a first-class queen. And I found, too, that as the workers dragged the pupæ from the cells the queen deposited eggs in them. I decided to try the effect of making this stock queenless. This I did, and it had the desired effect, as no brood was thrown out after the removal of the queen. —WM. LOVEDAY, *Harlow, Essex.*

WIRING FRAMES.

[3332.] My experience with nails bent at point into hooks was similar to that of your correspondent "Alpha," in B.B.J. of July 7 (3318, p. 264). I now use and find the following a very simple and effective method :—Drive two ¾-in. wire nails transversely through each side bar. Above and under any one nail pierce a hole, and one hole outside the other three. Fasten the wire over the nail at the double hole, then lace it through the others back to the starting point, and fasten off.—NOVICE, *Kirkintilloch, N.B., July* 15.

HORSES STUNG BY BEES.

SUBSCRIPTIONS TO COMPENSATION FUND.

Referring to what appeared on page 272 of our last issue, we have received the following :—

"Please put down my name for 5s. in the subscription which is being made towards compensating the owner of the horses stung to death in Notts. It is a very rare occurrence for anything so serious to happen in connection with bee-keeping, but it is none the less most unfortunate. I shall be disappointed if bee-keepers do not respond readily, for among the thousands who read the B.B.J. I am sure there are hundreds who will send a small sum to show their sympathy.—E. D. TILL, *Eynsford, July* 15."

We beg to notify the following subscriptions to the fund mentioned last week, and would like to see the matter taken up by readers as a "shilling" subscription, in view of the fact that twenty subscribers at one shilling yield better results than three at five shillings.—EDS.

BEE JOURNAL and *Record*	£0	10	6
E. D. Till	0	5	0
"A Sussex Apiary"	0	2	6
H. W. B.	0	2	6
H. B., jun.	0	1	0

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Mr. Valentine—a view of whose apiary appears below—in response to our usual invitation, sends us so interesting an account of the place, and of his bee experiences, that to add to it would be superfluous. He says :—

"When sending you the photo of my bee-garden I thought that the introduction of 'A Wild Irish Apiary' would give variety to the interesting series of pictures appearing in your pages ; and I am pleased that you consider it worthy of a place.

"The apiary, as shown, is the growth of seven seasons, commencing with one stock in 1891 and increased to fifteen when photo was taken (August, 1897), all in frame-hives.

MR. JOHN VALENTINE'S APIARY, COLLOONEY, CO. SLIGO

"The situation is a favourable one in many respects, having southern aspect and good shelter on all sides as may be observed ; on the north by higher ground ; east by the cottage in which I reside ; and west by a low, thick hedge which separates the garden from a public road. This nearness to the road was a source of great anxiety to me at first, but with cautious handling, the use of super-clearer, and having bees in comfortable easily manipulated hives, no passer-by has had reason to complain so far.

"The hives are of different patterns, but all take standard frames and fittings ; uniformity in this respect being a necessity to the comfort of bees and bee-keeper alike. My favourite among hives is the 'Guinea on the W.B.C. Plan,' though excellent results are obtained from the 'Combination' and 'Economic' hives. The great desideratum in a hive is proper facility for wintering ; and this is found alike in the 'W.B.C.' by placing an empty chamber below brood combs, and in the 'Combination' by placing brood and stores at back of hive and having empty space of five frames' breadth at front, clear from floor to roof. Thus wintered bees come through safely, and invariably give a good account of themselves.

"The principal source of income here is white clover, but when stocks are 'up to it' and weather favourable, considerable quantities of honey are obtained from wild flowers, fruit bloom, and hawthorn in spring. Last season some lime trees in a wood hard by yielded well after clover was exhausted. The average takes vary a little each year ; last season hives worked for extracted honey gave 100 lb. each of an average, and for comb honey an average of sixty good saleable sections each, besides some unfinished ones.

"Extracted honey is the chief product, because it requires less attention in some ways, and is more easily disposed of in large quantity. All that I can spare goes to one wholesale firm at a good price, so that I give most attention to what pays best, and content myself with ten or twelve dozen sections for my own table, and one or two local customers.

"Bee-keeping is to me a very great pleasure, indeed ; engaged at book-keeping and office work from 8 o'clock a.m. to 6 o'clock p.m. I cannot give my stocks all the attention they require at times ; but it is real delight to snatch a few minutes from dinner hour to read the face of the apiary and see the busy creatures at work, mentally noting the stock you would like to look at more closely in the

evening. Swarming time also gives work to Mrs. Valentine who, along with myself, is seen in the photo. Swarms are quite safe in her hands, and she takes pleasure in having any that come off well secured before my return from business, and in the seven seasons past there has not to my knowledge been a swarm lost."

METEOROLOGICAL REPORT.

METEOROLOGICAL OBSERVATIONS TAKEN AT DUDDINGTON, STAMFORD, NORTHANTS, FOR THE WEEK ENDING JULY 16, 1898.

1898.	Bar. in.	Tem. 9 am deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in.
July 10....	30·36	53·0	66	50	16	57·4	—
,, 11....	30·36	60·5	73	42	31	56·4	—
,, 12....	30·23	60·5	69	48	21	57·8	—
,, 13....	29·89	57·5	65	54	11	59·1	—
,, 14....	30·01	60·9	74	44	30	58·0	—
,, 15....	30·11	68·5	80	50	30	64·0	—
,, 16....	30·14	70·0	79	56	23	66·7	—
Means	30·16	61·6	72·3	49·1	23·2	59·9	*Nil.

* Total.

For the week ending July 9 the mean temperature, viz., 56·7 (not 56·6, as sent in error), was 3·7 below, and the rainfall, viz., nil, was 0·50 in. below the respective means for the week. Rainfall, Jan. 2 to July 9, viz., 8·77 in., is 2·66 in. below the average, and that June 26 to July 9, viz., 0·70 in., is 0·22 in. below the average.

FRED. COVENTRY.

Queries and Replies.

[2071.] *Preventing Second Swarms.*—I have a newly-swarmed hive which I wish to prevent sending off any more swarms or "casts." Being only a beginner, and not confident about cutting out the queen cells, I asked the advice of a neighbouring bee-keeper, who recommended me to cover the hive entrance with queen-excluding zinc, and keep the same on up to about the sixteenth day from the time of swarming. I find, however, what I did not think of before, that while keeping the queen in (the idea being, of course, to keep her in until all queens are hatched so she can kill all the others) the drones also are prisoners, and, in their efforts to get out, the workers are greatly interfered with in getting in and out of the hive. 1. Will you, therefore, kindly send me a line of reply by post to say whether I am doing right in keeping the excluder on? It is now about ten days since first swarm came off, and I have had it on seven days.—J. T. S., *Sheffield.*

REPLY.—We fear you have delayed too long in writing for even post reply to be of much service, as it can only reach you twelve days after the top swarm came off, and the bees will have most probably have tried to swarm again if they intend to do so at all. On the off chance, however, of this not having happened, the queen will be heard "piping" on applying your ear close against the hive side, and, should you hear it, remove the zinc from hive entrance at once and let the bees swarm next morning, as they will if weather is suitable. Then, after securing the swarm in the hiving skep, set it down close to the parent hive and leave it there till 6 a.m. next day, at which early hour the bees of swarm will be quietly disposed and may be thrown out in front of parent hive and allowed to run in. The chances are ten to one that no further swarming will take place, while the queen question having been settled by the "survival of the fittest," all surplus ones will be thrown out of hive next day.

[2072.] *A Platelayer's Troubles.*—1. I got two swarms on June 4 and put them on six frames; they have now got eight frames of comb all drawn out with brood in seven frames in each lot. I have put shallow-frame supers on, but only gave four frames in each box till they get well up, when I intend to give more if wanted. Is this right? 2. Brood will start hatching out by about next Thursday. Will the bees have come up into supers then, if weather is right? It has been bad lately. 3. Can you tell me of anything that I can rub on my hands to prevent me being stung? Last year the stings did not effect me, but now I swell a good deal, and it is unpleasant to be working with a shovel all day with swelled hands. 4. I am going to give two full sheets of foundation to each swarm at the end of honey flow; will this be better than wintering bees on eight frames only? No more "starters" of foundation for me, it only means a lot of drone comb in a hive.—G. T. J. (platelayer), *Spalding, Lincs.*

REPLY:—1. Quite right. 2. The bees will enter supers when strong enough and honey is coming in, but not before. 3. Clean hands are all we rely on ourselves, but try Grimshaw's "Apifuge." 4. Yes, to get combs drawn out.

[2073.] *Queen Rearing.*—Do you consider it a good and safe plan (in the case of a queen in her third year) to kill her during the first week in July and allow the bees to re-queen the colony? or would you prefer the purchase of a young fertilised 1898 queen which could be introduced in the usual way? I suppose neither method would prevent the bees working during the honey flow.—H. T. H., *Yorks.*

REPLY:—If the colony is strong the bees may safely be left to raise a new queen. Care should, however, be taken to see that a young larva is used for the purpose. The removal of old queen will undoubtedly disorganise the bees a little for a few days, until the new queen-cells are well started.

[2074.] *Dividing Stocks for Increase.*—About a month ago I bought two stocks of bees in wooden-box hives 12 in. high, glazed at back and two sides with shutters. I then prepared two modern ten-frame hives, fitting all frames with comb foundation, and then placed the two old hives (after removing floor-boards) above the frames of the new hives,

where they have been ever since, and the bees appear to be strong and are working very busily from the entrances of their new home. What I wish to know is, (1) would you advise or consider the two stocks strong enough for two more box frame-hives being prepared as before, and repeat the same operation so as to increase the number of my colonies? Having plenty of hives and not requiring any more honey this season, (2) do you consider that the bees require to be fed during this bad weather? And (3), if so, should the food be liquid or dry?—NOVICE, *Wallington.*

REPLY.—1. We should defer any dividing stocks for increase till the third week of the month so as to allow the bees to store as much natural food as possible for a fortnight to come. 2. Divided stocks, as a rule, require more or less feeding if weather is not good. 3. Liquid food (sugar syrup) is best at this season.

[2075.] *Undesirable Bee-forage.*—I herewith enclose cuttings from a large hedge, also a few sprigs of a wild flower that grows plentifully in this locality. I will be obliged if you can give me the names of the plants and your opinion as to their use as honey flowers. My bees are working very busy on the willow-like shrub, a hedge of which surrounds a field of white clover.—"WILLOW," *Furnace by Inverary, N.B., July* 13.

REPLY.—The shrub grown as stated is the common privet, very useful as a hedge but most disadvantageous to bee-keepers when blooming simultaneously with white clover, because of its bloom yielding honey of very inferior quality; so much so that if you have control of the hedge and need good clover honey for market we should at once clip off every privet-bloom within reach. The other bloom is that of the *Teucrium scarodonia*, commonly known as garlic sage. It is of no use at all to bees.

[2076.] *Strengthening Swarms.*—I am most anxious for instruction how to add a swarm of bees to a small swarm which I put into a frame-hive about a month ago. I did this on a cold, wet day, and many of the bees died. That swarm had already been in a box for about a fortnight, and I drove them into the frame-hive as stated. I have now seven other strong swarms in skeps and baskets, and also have last year's stocks in the same things, and as the frame-hive would accommodate at least four times the number of bees now in it, I should like to strengthen the colony by driving some of the other stocks into it. When ordering some materials from a well-known manufacturer, I asked him if I could add one of my stocks or this year's swarms to a weak lot in a frame hive? In reply he said: "It is too late to drive a whole stock of bees this year, but you can drive, say, three parts of them out and put into bar-hive, and those left in skep will hatch out the brood and raise another queen." He also added; "Put a little peppermint on both lots and kill queen in weak swarm." 1. I did not like to trouble my bee adviser again, but am much perplexed and want to know why it is too late to drive *all*, if not too late to drive three parts and the queen? I can see that the brood in the skep will be lost, but so it would be if the bees had been driven out earlier; and I don't mind losing the brood if I can add a strong lot of bees to those in the frame-hive. My reason for this is that I now have only five frames in the hive, and there is room for twenty, and racks of sections over them besides. 2. How can I "sprinkle peppermint on the bees" between the frames of the hive? I suppose I am to move them all from their places in order to do it, and I must also move them in order to find the queen and commit reginacide. 3. I took a swarm this year at least 18 in. long and 6 in. diameter. Is not that unusually large?—R. C. A., J.P., *Machynlleth, July* 5.

REPLY.—1. The only reason for not entirely depleting the hive of bees by driving is the loss of brood left in the combs of driven hive. 2. A little flour sprinkled on bees by means of a "dredger," as they run in hive when uniting, answers the purpose equally well as any scent. 3. Yes, a very good swarm.

[2077.] *Buying Diseased Bees.*—Having been requested to inspect two stocks of bees belonging to a gentleman (recently bought and warranted free from foul brood.) I went, and on opening the hives at once found foul brood. I advised him to have the bees destroyed, which he will do if my view is confirmed by a second opinion. Will you, therefore, please say what you think about enclosed piece of comb from one of the hives? All ten frames are alike; on two only is there any young brood and not many bees. The other hive is a little stronger. There are several other bee-keepers in the near neighbourhood whose bees are perfectly healthy.—G.W.

REPLY.—We find distinct traces of foul brood of old standing in three cells only of comb sent. The bulk of dead brood in the cells show signs indicative of having been chilled before packing for travelling or through overheating in transit. Anyway, we are of opinion that foul brood has not caused the death of the brood in cells; indeed fully developed young bees were hatching out from some cells as we examined the comb. We can readily understand your alarm at seeing so much dead brood in capped cells, but mischief of this kind not seldom happens through bad packing and insufficient ventilation for transit.

HONEY IMPORTS.

An account showing the value of honey imported into the United Kingdom during the month of June, 1898, £3,870.—*From a return furnished to the* BRITISH BEE JOURNAL, *by the Statistical Office, H.M. Customs.*

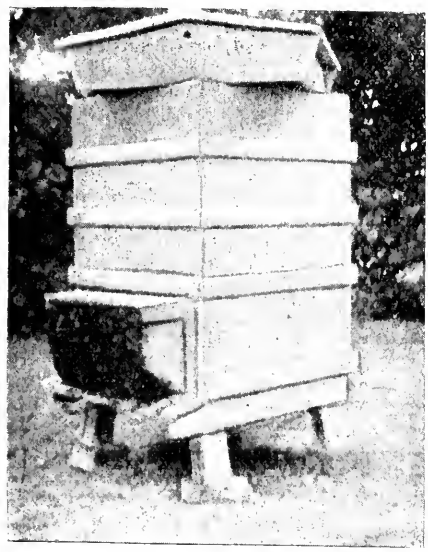
NOVELTIES FOR 1898.

THE "BRICE" SWARM APPLIANCE.

Messrs. Jas. Lee & Son send us a photo, reproduced below, showing "The Brice Swarm Appliance" in active work.

"It was taken," as we are informed, "at an apiary in Kent, the swarm depicted issuing on June 25 last, and the bees had been 'in possession' of the 'retaining box,' which latter is made to hold shallow-frames, for about seven hours." Describing the swarm appliance Messrs. Lee say :—"Although many of our customers have spoken highly of the work done by this simple and effective contrivance, this is the first photo of a swarm in the retaining box that has come to hand.

"Its construction may be gathered from the illustration. On the inside and at the level terminating the slope of excluder zinc a floor



THE "BRICE" SWARM PREVENTER.

is fixed, above which is a chamber the length of the hive front, fitted with two frames with starters of foundation *in situ*. In this floor is a passage cut to allow entrance of swarm into the upper chamber.

"The form in use when photo was taken was one with certain improvements which Mr. Brice has made this year. Among its other advantages we claim the following :—

"It offers no obstruction, but regulates the working of the bees ; does not stop ventilation ; prevents loss of swarms and escape of queens ; induces bees to commence work in the outer chamber ; regulates number of drones in a hive ; by removing the roof for a short period when drones are flying they are released never to return, thus removing primary cause of swarming ; easily fitted and removed ; takes place of a porch, and is not unsightly ; saves the necessity of paid hire to watch bees for fear of losing swarms ; and does away with worry and anxiety on this account."

Bee Shows to Come.

July 26, in the Parish Hall, Pembrey (Carmarthen).—Honey Show, in connection with the Horticultural and Industrial Exhibition. Bee manipulations, with lectures by Mr. E. Thornton, Hon. Sec. Glam. B.K.A. Seven classes for honey, including three open classes, for three 1-lb. sections, three 1-lb. jars, and for single jar of granulated honey. **Entries closed.**

July 28, at Cambridge.—Honey show in connection with the Cambs. and Isle of Ely Agricultural Society. **Open class for single 1-lb. jar of extracted honey.** Schedules from C. N. White, St. Neots.

July 30.—In connection with Helsby (Cheshire) Flower Show, three open classes and single jar competition. Schedules from Dr. Briant, secretary, Helsby, Warrington. **Entries close July 23.**

August 1, at Beddington, near Croydon.—Surrey Bee-keepers' Association Annual Show, in connection with the Beddington, Carshalton, and Wallington Horticultural Society. Additional open classes. Increased prizes and medals, including Open Class for Single 1-lb Jar and Single 1-lb. Section with free entry. Schedules from F. B. White, hon. secretary, Marden House, Redhill. **Date for closing entries extended to July 29.**

August 1, at Melton Constable Park.—North Norfolk B.K.A. Annual Show. Three open classes. Schedules from C. J. Cooke, hon. sec., Edgefield, Melton Constable. **Entries close July 25.**

August 1 and 2, at Althorp Park, Northampton.—Northants B.K.A. Honey Show, in connection with Horticultural Society's Show. Several open classes. **Entries close July 26.** Schedules and all particulars from R. Hefford, Kingsthorpe, Northampton.

August 8, at Church Gresley.—Honey Show in connection with the Floral and Musical Fête. The Derbyshire B.K.A. Silver Medal and money prizes for six sections and for six 1-lb. jars honey. Open class for 1-lb. section and 1-lb. jar—1st prize, £1 ; 2nd, 10s. Entry forms from T. Legge, Secretary, Mushroom-lane, Church Gresley. **Entries close August 1.**

August 10, at Clutton, Bristol.—Somerset and South Glos. B.K.A. Annual Show in connection with Clutton Horticultural Society. Six open classes. Schedules from Miss H. Dawe, Long Ashton, near Bristol.

August 10, at Marlow, in connection with the Marlow Horticultural Society. (Under the auspices of the Berks Bee-keepers' Association.) Show of Hives and Appliances, Honey, Bees Nine classes. Excellent prizes offered. Schedules from A. D. Cripps, Esq., Hon. Sec., High-street, Marlow. **Entries close August 6.**

August 11, at Victoria Pleasure Grounds, Goole. Honey Show in connection with the Agricultural Society. Six open classes, including one with 20s. and 10s. prizes for single 1-lb. jar extracted honey (**entry free** in this class). Schedules from J. Luddington and N. S. White, Secs., Lindum House, Goole. **Entries close August 6.**

August 11, at Keele, Staffs.—Honey show, in connection with the Keele Agricultural and Horticultural, Dog, and Poultry Shows. Schedules from W. A. Benson, Secretary, Silverdale, Staffs.

August 13, at Dumfries.—In connection with "Band Contest," the South of Scotland B.K.A. will hold a honey show as above. **Two open classes for "Three's."** Schedules from Mr. J. Kerr, Hon. Sec., Douglas-terrace, Dumfries. **Entries close August 6.**

August 13, at Stoke Prior, near Bromsgrove.—Honey Exhibition in connection with the Stoke Prior Horticultural Society. Seven open classes. Three "Gift" classes of two 1-lb. sections of honey, two 1-lb. jars extracted honey, and single 1-lb. jar candied honey. Liberal prizes. Schedules, entry forms, &c., from Percy Leigh, "Beemount," Stoke

Prior, near Bromsgrove, Worcestershire. **Entries close August 6.**

August 15 and 16, at Felling.—Northumberland and Durham B.K.A. honey exhibition, in connection with the Felling Flower Show. Schedules from T. Russell, 17, Stephenson-terrace, Felling. **Also at Gateshead, August 29 and 30.**—In connection with the flower show. Schedules from T. H. Armstrong, 111, Prince Consort-road, Gateshead. **Entries close August 20.**

August 17 and 18 at Dover.—In connection with the Dover Horticultural Society at Dover College Grounds. Additional open classes. Increased prizes and medals. Schedules from H. W. Brice, Hon. Sec. Kent and Sussex B.K.A., Dale Park, Upper Norwood, S.E.

August 17 and 18, at Blackpool.—Honey show in connection with the Blackpool and Fylde Horticultural Society, under the auspices of the L. & C. B.K.A. Schedules from C. E. Riding, Secretary, 9, Central Beach, Blackpool. **Entries close August 8.**

August 17 and 18, at Ince Hall, near Chester.—Open classes for six 1-lb. jars, three 1-lb. granulated, and single 1-lb. jar. Schedules from the flower show secretary, Ince, near Chester

August 17 and 18, at Shrewsbury.—Shropshire B.K.A. Annual Show of Honey, "The Quarry," in connection with the Horticultural Fête. Schedules from Jno. Palmer, Hon. Exhibition Secretary, 17, Brand-lane, Ludlow.

August 18 and 19, at Harrogate.—Knaresboro' and District B.K.A. Show of Honey, in connection with the Harrogate Horticultural Society. Schedules from C. B. Elmhirst, Secretary K. & D.B.K.A., Farnham, Knaresboro'.

August 19, at Exeter (Devon B.K.A.).—In connection with the Devon and Exeter Horticultural Society. **Open Classes,** with liberal prizes, for six sections, and for six 1-lb. jars extracted honey, also for best exhibit of honey not exceeding 28 lb. Nine classes for members only. Schedules from H. Tolson, Hon. Sec., Park House, St. Thomas, Devon. **Eutries close August 6.**

August 24, in Neston Park, Wilts.—Honey exhibition in connection with the Atworth and District Horticultural Show. Seventeen classes with liberal prizes, including single 1-lb. jar and single section, with free entry. For particulars apply to J. P. Inkpen, Sec., Atworth, Melksham. **Entries close August 20.**

August 27, at Windsor.—Windsor and District Branch, Berks B.K.A. Bee and Honey Exhibition, in connection with the Liberal Club Annual Flower Show. Schedules from J. Hyde, jun., Hon. Sec., 55, Bexley-street, Clewer. **Entries close August 18.**

August 27, at Withington, Manchester.—Honey Show in connection with the South Manchester Horticultural Society. Seven classes for honey, including open class (entry free) for single 1-lb. jar. Schedules from F. H. Taylor, Birch Fold Cottage, Old Hall Lane, Fallowfield, Manchester. **Entries close August 13.**

August 31 and September 1, at Burslem, Staffs.—Annual Bee and Honey Show of the Staffs. B.K.A., in connection with the Staffordshire Agricultural Society. Sixteen classes for bees, hives, honey, and appliances **Four open classes,** including class with three prizes for 1-lb. section, 1-lb. jar, and 4 oz. beeswax. Schedules from Mr. J. P. Jones, Sec. Agricultural Society, Newcastle, Staffs. **Entries close August 6.**

September 7 and 8. At the Cattle Market Derby.—Derbyshire B.K.A. Seventeenth Annual Exhibition of Bees, Honey, and Appliances, in conjunction with the Show of the Derbyshire Agricultural Society. Liberal prizes. **Eight open classes.** Schedules from F. Walker, Hon. Sec. D.B.K.A., 64, Gerard-street, Derby. **Entries close August 31.**

TRADE CATALOGUES RECEIVED.

W. P. Meadows, Syston, Leicester.—Whether or not the publication of Mr. Meadows' new catalogue for '98 has been deferred advisedly we don't pretend to say, but its non-appearance till after the Royal Show of the year has enabled him to "score" a good point in printing therein half-tone blocks from photos of his winning exhibits at Birmingham. He thus presents readers with his most recent novelties, and the judges' opinion of them in the awards. Apart from this stroke of "good business," however, Mr. Meadows, who seems never happy unless "improving" upon the bee appliances in use, has in the well-got-up list some sixty pages of instructive and useful reading for bee-keepers.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

H. J. G. (King's Norton).—*Buying Driven Bees in Autumn.*—1. The best way, we think, of utilising driven bees in autumn where you have young fertile queens on hand at the head of weak but healthy stocks (say a late swarm or cast), is to give such a stock 2 or 3 lbs. of healthy driven bees—at a cost of about three or four shillings—and so turn a weak stock into a strong one for wintering, and for next season's work. This to our mind is a good investment, but to buy driven bees at 1s. 3d. to 1s. 6d. per lb. in autumn for adding to strong stocks already possessing good queens is not advisable. 2. You must compare the cost of establishing 5 lbs. of driven bees at 1s. 6d. per lb. on full sheets of foundation and feeding up for winter with the price at which you could buy a "guaranteed healthy" stock already established on five or six frames of food and brood, then decide which is best. All the information needed for this will be found in advertisements on page 280 last week.

J. R. (Stowmarket).—*Using Queen Excluders Below Sections. Prices of Honey.*—1. Personally we always use excluders when working with the "W.B C." section-box. Many experienced hands, however, prefer to risk spoiled sections and so dispense with excluders below section-racks. Try both plans, and choose for yourself as to the future. 2. We cannot fix prices of honey for you, so much depends on local conditions. Your best plan is to note our prepaid column and see what offers are there made by sellers. Buyers will also quote offers if written to. 3. We agree with you as to the present season so far being a very disappointing one.

W. H. L. (Skibbereen, co. Cork).—1. Much obliged for cutting, which we print next week. 2. We don't see anything wrong with foundation sent; in fact, it is a good sample. There is some other cause, no doubt, for the bees not taking to it.

H. W. E. (Hemyock).—*Preserving Dead Bees.*—1. The sample of honey sent is largely honey dew, and is of no value for show purposes because of its inferior quality. 2. Dead bees for use in teaching apiculture in classes may be either shown in glass sample-tubes preserved in spirits, or pinned out in an entomolgist's specimen case. The former is perhaps the readiest and best plan.

S. Bramley (Wilts).—*Abnormal Drones.*—The drone sent is a curious specimen of an insect deformed from birth. The fact of being one-eyed accounts for its "spinning round in a circle," as stated, when it fell to the ground. There is no accounting for such deformities, whether they occur in animals, insects, or human beings. Our senior editor has placed the specimen in his collection of bee curiosities.

A. F. (Mon.).—The honey from hive referred to is perfectly innocuous, and quite good for all household purposes.

Farmer (Terrington).—*Straw Skep Making.*—Not being at all conversant with the business of skep-making, we cannot help you with any "hint" beyond advising a visit to some cottager or workman who knows all about it. We printed a very good view of "skep making" (from a photograph) in our issue of July 13, 1893, which might help you in understanding how the work is done.

H. F. (Brighton).—*Bee Forage.*—1. In ordinary seasons bees should be completing supers in the south by June 12, but this season, in some parts, they have been almost foodless at that date, so adverse was the weather at the time. 2. Bees much prefer white clover to vetches, but gather well in some seasons from the latter plant. 3. We attach no value at all to the pansy as a honey plant. 4. In the honey season bees do not visit water troughs so much as earlier on in the spring; but we never heard of them using sea-water. 5. It is not worth while to remove "one hive" of bees to a "chosen spot" for the benefit of some particular forage growing there. The risks are too great.

Constant Reader (King's Lynn).—*Cottagers and Straw Skeps.*—So far from what your labouring men friends call "Them bee people in London" deserving the reproach implied in your letter, we beg to say the British Beekeepers' Association have published a pamphlet on the "Management of Straw Skeps," which gives all the necessary instructions for managing bees, making artificial swarms, guiding bees, supering, taking honey, and even something on hive making—all of which information is given to any one for a penny! Or we will be very pleased to forward from this office three copies for 3½d., or six for 6½d., single copies 1½d. in stamps, all post free. See also reply to "Farmer" above.

Lester Doran (co. Louth).—*Varieties of Heather.*—On p. 361 of B.J. for 1896 will be found full particulars with illustrations of the several varieties of heather.

B. T. I. (Tewkesbury).—*Bees "Hanging Out."*—When bees hang out in clusters at hive entrances it means either lack of ventilation or want of room inside the hive. If the bees are, as stated, a "fierce breed," which makes you dread upsetting them to examine frames, give an additional surplus-chamber overhead. This will tend to stop the "hanging out."

A. J. H. (Holyrood).—*Dark Honey.*—The "dark green" shade you refer to is characteristic of several honeys, as from gooseberries, limes, &c. If flavour is good and honey is ripe it is fit for use at once.

R. F. L. T. (Wimbledon).—*Suspected Comb.*—We see no cause for alarm regarding stock referred to. There is some chilled brood in comb, but nothing worse. The chilling may be accounted for by introducing a prolific queen to a weak lot of bees, which latter are unable to protect all brood produced, owing to insufficiency in numbers. The present warm weather will tend to put matters right.

(Miss) A. E. (Broadwater).—*Non-swarming Hive.*—Mr. Meadows' address is Syston, near Leicester. We thought this would have been understood by readers, as the maker is one of the best known in the country; hence our not giving his address on p. 276.

"Anxious One" (Cornwall) and A. H. (Ringwood).—Hives from whence comb was taken are affected with foul brood. Deal with them as advised in "Guide Book."

T. C. (Loughboro').—The matter was dealt with last week.

A. L. M. (Bullisodare).—*Bees Dying.*—1. There is nothing whatever in bees sent to account for death. If the mischief was due to any known outside source other hives would have been similarly affected. 2. Why use both camphor and naphthaline in the hive? We should dispense with one or the other.

Honey Samples.—Samples of honey have been received from S. H. (Ivybridge), S. S. (York), F. G. (Keswick), H. W. E. (Hemyock, Devon), "Queen Bee" (Feltham, Middlesex), J. Polehampton N. T. (Holyrood), and some others, all of which show very unmistakable signs of the prevalence of honey-dew. We shall probably receive more of the same kind before our next issue, and will deal with all together.

Notice of Removal.—We are asked by Messrs. Brown & Sons, seedsmen and dealers in bee appliances, to notify their removal from 42, Baldwin-street to more central premises 31, Bridge-street, Bristol, where, in addition to their old-established seed trade, they now devote a spacious show-room exclusively to hives and bee appliances.

Editorial, Notices, &c.

THE PREVALENCE OF HONEY-DEW.

SENDING "SAMPLES" BY POST.

So numerous have been the samples of dark honey, gathered recently in various parts of the kingdom, and sent to this office for our opinion thereon, that it will be best to defer such observations as we intended to make on the subject in this issue till next week; by which time—if the daily arrivals continue at the same rate—we shall be in a better position to gauge the extent of the mischief throughout the whole kingdom. In the meantime we hope that correspondents will exercise the needful care necessary for transit in post without leakage. Small glass jars of honey, as a rule, reach us all right when wrapped in plenty of corrugated paper, or in a circular tin, to be had in any household. There is, however, no need whatever to send whole sections of honey in the comb. These have almost invariably arrived leaking badly—how badly may be inferred from the fact of a postman asking for "water to wash his hands" after handing over our usual morning bundle of letters. Now when this condition is reached, it goes without saying that honey in post might easily become a nuisance to the authorities, and be dealt with—quite reasonably—in a way bee-keepers would not like. Moreover, we don't need or want full sections as samples; a small piece of comb nicely wrapped in "butter paper," and enclosed in a 4 oz. mustard tin will reach our hands perfectly dry by letter post for a penny stamp! Need we say more?

YORKSHIRE AGRICULTURAL SOCIETY.

BEE AND HONEY SHOW AT LEEDS.

This Society held its six tieth annual meeting at Roundhay Park, Leeds, and in connection therewith the Yorkshire B.K.A. were again to the fore with the bee tent, the instruction from which, in years gone by, has done so much to spread a knowledge of bee-keeping on modern lines. The Y.B.K.A. are fortunate this year in finding in one of their "colts" (Mr. Frank A. Pay) a lecturer who promises to be second to none in finished, deliberate, and common-sense tent-work.

As at previous shows this year the exhibits of honey were meagre in number, doubtless owing to the same causes which brought about similar results elsewhere. One finds nectar secretion more profuse on hot, close, moist nights, when the electrical conditions of the atmosphere tell one there is thunder in the air. The quality of the extracted honey staged was very good, however, especially in consistency; but sections were about the poorest we have ever seen at a first-class show.

In the classes for hives and appliances Mr. Dixon made a new departure in observatory hives at this show, in exhibiting a box-shaped glass hive, instead of, and in addition to, the usual upright observatory.

One would think that three prizes of £3, £1 10s., and 15s. respectively, and three with a £3 "first" for "collection," and £3 "first" for a "honey trophy" should bring more than two exhibits in each class year after year, as is the case here? In bees'-wax there was a goodly number of exhibits of quite high-class stuff.

PRIZE LIST.

Collection of Hives and Appliances (2 entries).—1st, W. Dixon, Becket-street, Leeds 2nd, A. C. Jamieson, Dringhouses, York.

Complete Frame-Hive (6 entries).—1st and 2nd, W. Dixon.

Observatory Hive, with Bees (3 entries).—1st and 2nd, W. Dixon.

Honey Trophy (2 entries, staged).—1st, W. Dixon; 2nd, Miss Cooper, St. Nicholas-square, Leicester.

Twelve 1-lb. Sections.—(17 entries).—1st, G. Remmer, Knedlington, Howden; 2nd, H. Waddington, Boroughbridge.

Twelve 1-lb. Jars Extracted Honey (23 entries).—1st, Alfred Phillips, East Keswick, Leeds; 2ad, W. Dixon; v.h.c., Miss Cooper.

Bees'-wax—not under 3 lb. (13 entries).—1st, Wm. Dunning, Helmsley; 2nd, Rev. Sidney Smith, Wheldrake, Yorks.

The duties of judging were allotted to Mr. R. A. H. Grimshaw, who—on behalf of the B.B.K.A.—during the show conducted an examination of candidates for the third class experts' certificates.—(*Communicated.*)

WELLINGTON (SALOP.) AND DISTRICT BEE-KEEPERS' ASSOCIATION.

SHOW OF HONEY AND BEES.

The first annual show of this Association was held on Tuesday, July 19, in connection with the Horticultural Show, and, taking the season into consideration, was a decided success. Mid-July is too early for a honey show in Shropshire, and it is to be hoped that next year the Flower Show Committee will fix their day later in the season, when a grand show of honey may be expected.

In the afternoon Miss Eyton, the President, distributed the silver medals, &c., to the successful competitors, and in doing so congratulated the members upon making such a good show; and, in view of a late and bad honey season, both the quantity and quality of the exhibits agreeably surprised her. After the prizes had been given, the Hon. Secretary (Mr. R. Holland) sold by auction the whole of the exhibits in class for single sections and 1-lb. jar of extracted honey, which, by the rules of the show, became the property of the Association. This "new departure" proved a great success, visitors being most anxious to secure some of the honey. The result was a

satisfactory addition to the funds. There would have been no difficulty in disposing of twice the number of sections and bottles.

Awards :—

OPEN CLASSES.

Twelve 1-lb. Sections.—1st, W. Woodley, Beedon, Newbury; 2nd, R. A. Price, Shrewsbury; h.c., J. Carver, Wellington, and S. Cartwright.

Twelve 1-lb. Jars Extracted Honey.—1st P. H. Rawson, Market Drayton; 2nd, H. W. Seymour, Henley-on-Thames; h.c., R. A. Price.

Twelve 1-lb. Jars Extracted Honey (Dark Coloured).—1st, J. Carver; 2nd, Mrs. Powell, Cold Hatton; h.c., R. A. Price.

Bees'-wax.—J. Carver.

Observatory Hive (with Bees).—1st, J. Carver; 2nd, J. Pearman, Derby.

Bee Flowers.—1st, J. Bradley, Stoney Stretton; 2nd, G. Lloyd, Overley; h.c., R. Hill.

Single 1-lb. Section and 1-lb. Jar Extracted Honey.—1st, gold centre medal, R. A. Price; 2nd, silver medal, J. Carver; v.h.c., F. Chapman, Wells; h.c., S. Cartwright, Shawbury.

MEMBERS' CLASSES.

Twelve 1-lb. Sections.—1st, J. Carver; 2nd, T. R. Horton, Much Wenlock; h.c., R. A. Price.

Six 1-lb. Sections.—1st, E. Carver, Wellington; 2nd, R. A. Price; h.c., T. R. Horton.

Single 1-lb Section and 1-lb. Jar.—1st, R. A. Price; 2nd, J. Carver; h.c., R. Hill.

Twelve 1-lb. Jars Extracted Honey.—1st, R. A. Price; 2nd, J. Carver.

Six 1-lb. Jars Extracted Honey.—1st, E. Carver; 2nd, R. A. Price; c., Mrs. Powell.

Novelty Connected with Bee-keeping.—R. Hill.

Non-sectional Super of Comb Honey.—1st, J. Carver.

Preserved Whole Fruit in Honey.—1st, Mrs. Holland; h.c., Mrs. Powell.

COTTAGERS' CLASSES.

Twelve 1-lb. Sections.—1st, E. Carver.

Twelve 1-lb. Jars Extracted Honey.—1st, Mrs. Powell; 2nd, E. Carver.

Hive Made by Amateur.—1st, E. W. Davies, Wellington; h.c., J. Clay, Wellington.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

QUEENS TAKING WING.

[3333.] Two correspondents (2065, p. 269, and 3323, p. 273) have written about queens taking wing. Regarding this matter, allow me to say I have frequently had young queens take flight when removed with a comb from their hive, but I do not remember having lost one in consequence. There is certainly some danger of the queen entering the wrong hive if the entrances are placed very close together, and this danger is increased if the owner continues to stand over and manipulate the frames. I find that the queen usually, on these occasions makes a tour of the immediate neighbourhood of her hive, and then returns to it, if not obstructed by the manipulation, and she frequently re-enters the hive by alighting on the uncovered frames. I have also caught queens in my hand when on the wing, and again when I have seen them alight upon a fence. Young queens are always timid, and rush about if the comb is kept long out of the hive. Once, some years ago, when I had been examining some hives of bees, I saw a queen creeping out of my trouser's pocket. My experience is that older queens seldom take wing, but one busy day during the present swarming season I was unable to return a swarm till the following morning when the sun was high in the heavens, this one-year-old queen took wing, and I did not see her return and was anxious, but I found a few days later that she did return and resume her duties.—Wm. Loveday, *Harlow, Essex.*

THE BLIGHT!

A BEE-KEEPING CLERGYMAN'S EXPERIENCE OF 1898.

[3334.] What has come to my bees this year that they have deliberately forsaken the good and chosen the evil? It would be impossible to take more pains with them than I have done, their hives are downstairs full of brood from one end to the other, they are surrounded with the best of flowers in my garden, and abundance of sainfoin, clover, &c., in the meadows around, and yet they have preferred, when at last they did get some sunshine, to produce the back stuff, of which I send you a sample, instead of the beautiful amber-coloured honey with which they have in former years rewarded me. My parishioners mostly believe "honeydew" to be sent from heaven, like the manna in the wilderness, for the benefit of the bees and their keepers, and mock when I tell them that it comes rather from the other place, from Beezebub, the lord of flies, under whose patronage I suppose Aphides are.

But, seriously, what is one to do with this stuff, of which I have already about two cwt.? I certainly will not eat it, nor will I give any to my friends. Can you inform me whether it is absolutely unwholesome, and whether it is likely to improve in any way by keeping till it has granulated, and what price would one be justified in asking for it? I expect to see in your next a chorus of howls from every quarter. The *Pall Mall Gazette* had

an article upon the prevalence of "blight" this year. I have never known anything so bad during my twenty years' bee-keeping.—C. C. J., *Wortham Rectory, July* 23, 1898.

SWARMING VAGARIES.

DIFFICULTIES WITH CARNIOLANS.

[3335.] I think my experiences must be a record:—On June 21 finding queen-cells in a Carniolan stock I destroyed them; on the 28th the bees swarmed, I returned the swarm after removing all queen-cells. On Wednesday, July 6, they swarmed again; I now deprived the colony of their brood, but in spite of this the bees on the following Sunday came out again, although the eggs were unhatched in the royal cells! I intended to remove the queen but she met with a tragic end; I found her dead outside the hive through having been injured—how I cannot say.

On Saturday last (July 16) still more vagaries. A hybrid stock (Carniolans and blacks)—headed by a young queen of this season—to my surprise swarmed, although only made up of two nuclei on the previous Monday, and I thought I had destroyed the queen-cells. One nucleus had no queen but some frames from the Carniolan stock. Just as the swarm had begun to settle, out came a swarm from a Ligurian stock. Now I particularly wished to lose neither of the queens of these swarms, and I knew the difficulty of separating lots that had united of themselves. Unluckily, the mixed black and Carniolan lot chose to settle in the adjoining field, and to reach them I had to go its extreme length and double-back — as I and my clothes are not proof against barbed wire—and this handicapped me.

I shook the mixed lot into a skep, then turned it down on the grass, and covered it while I watched the Ligurians; they settled in the top of a high pear tree in the garden. I thus had a lot on each side of the hedge, but the Ligurians finally changed their minds and descended into a hawthorn tree. When clustered I shook the swarm into a skep, then tramped back to see if my hybrids were quiet, but found they had decamped! Meanwhile the Ligurian swarm rose again, after flying round for a time settled in a thick hedge; so I put a skep over them and proceeded to examine the parent hives. On looking into the hybrid stock I saw a queen, and it was evident most if not the whole of the swarm had returned; but I found royal cells in various stages. I then searched the Ligurians but could find no queen; however, I destroyed some royal-cells. By this time I had had about enough of it in a blazing sun, and retired for refreshments, it being now past one o'clock. I soon resumed work again and smoked—still clustered in the hedge—up the swarm into the skep; but it was not a big lot, many bees having doubtless returned to the parent hive. Some of the black and Carniolan hybrids going with them, but they were all slaughtered; in fact, the two swarms fought! (I thought they never did this?) A good many Ligurians joined the mixed stock and were peaceably received.

Having, as stated, smoked the bees up, I covered the skep and carried it off; before doing so, however, I observed a group of bees on the ground, and after smoking them found a dead queen, which I supposed must be the Ligurian. I put the skep in front of the hive, expecting the bees to enter; but no, they stuck to the skep, so I shook them out, and to my great surprise saw the Ligurian queen run in! Where did the third queen come from? I have come to the conclusion it was from the mixed stock, and from the entire absence of eggs now, four days after the swarming, I conclude that there must have been both a fertile and a virgin queen at large in the hive at the same time. If this was so, the former must have gone out with the swarm and the latter remained. But why did one remain and most of the swarm return instead of joining the Ligurians?

Why, too, did they wait till the young queen hatched before they swarmed?

The young fertile queen was introduced to the nucleus which had queen cells, but the latter were torn down. Why was not the same done with the cells in the frames afterwards added? Then, too, there were queen cells with unhatched eggs.

Evidently "bees do nothing invariably."—ALPHA, *Hull, July* 23.

[Quite right here.—EDS.]

BEES AND HORSES.

PROTECTING FROM BEES WHILE MOWING.

[3336.] Acting upon your suggestion (page 284 of last week's B.B.J.) I enclose my shilling.

I read with interest *re* the above from Mr. Loveday (3329, page 283) and beg to give my experience. My seventeen stocks face a meadow separated therefrom only by a wire fence, and when the grass was cut, the near horse walked within one yard of every hive entrance. Now, like your correspondent, I asked that the men should commence mowing early in the morning. Eventually, however, it was nearly 8 a.m. when work commenced, and a very fine morning (June 22) so that the inmates of every hive were busy flying at the time. I knew how great an objection bees have at times to horses, and I took special precautions (and repeated the same when the hay was carried) as follows:—Prior to the horses being taken into the field for work, I made a solution of carbolic acid and water and with a cloth dipped in the solution and then wrung out, I carefully wiped the horses all over their bodies and limbs. The result was that not a single bee stung either of the horses employed. I may also say the men were not stung. I do not mention this to intimate that I have done better than others, but simply to

give the hint to those who may be placed at any time in a similar position, as I feel we cannot exercise too much care.—EDWIN WIDE, *Devon, July* 21.

[The above simple precaution is well worth adopting as a general rule when mowing is to be done near bee-hives, though it must not be implicitly relied on as an entire safeguard, because—as in Mr. Loveday's case—the conditions may be more trying in some instances. —EDS.]

SENDING SWARMS BY RAIL.

LOSS OF WEIGHT IN TRANSIT.

[3337.] I sent a swarm down to the B.B.K. Apiary last week. The gross weight immediately after hiving in swarm-box was 12 lb. 10 oz. Mr. W. Herrod, the Apiarist of the B.B.K.A., weighed them on arrival at Swanley next day, when the gross weight was 10 lb. 15 oz. The loss in weight was thus 1 lb. 11 oz. This is interesting, as neither of us had anything to gain or lose by over or under-estimating the weight. — SANNYER ATKIN, *Highgate, N., July*, 21.

EFFECT OF BEE-STINGS.

[3338.] I am writing this under difficulties, having one eye "bunged up" from a sting just under that organ. This is my first sting of the season, and I experience rather peculiar symptoms when stung. Directly after the poison is injected a sort of "nettle rash" rises, especially under the arms which is very irritating, and I experience a choking sensation in throat; while—if the weather is very hot at the time—my lips and mouth swell up. This lasts for about an hour, when it goes off; but the part immediately affected remains swollen, sometimes for as long as two days, after which it returns to its normal condition. I once saw a doctor about it, and he raked up all the cases he could remember of men and horses being stung to death with bees, says he "would not get stung like that for five pounds," all of which is very cheering. He advises hot fomentations, and I further relieved afterward by paying a doctor's bill. So much for my personal grumble. Now, will some of your medical readers and those "skilled in simples" advise a course of treatment for bee-stings. I am sure it would benefit some, and possibly would fill the JOURNAL, to the exclusion of the grumbles at the scarcity and poorness of the quality of 1898 honey, with which I expect the B.B.J. Office will shortly be inundated.—F. C., *Derby.*

IDENTIFYING SWARMS.

[3339.] When a swarm settles in an adjoining garden, and the owner claims, it the claim is sometimes disputed; but there is one simple method of proving whether it has left the hive of the claimant which is not mentioned in any book I have seen. Take a few of the bees—they can be captured in a wine glass—and throw them on the floor board. If the swarm has left the hive they will be received, but not otherwise. I was thus able to prove that a small swarm found in a tree near four hives had not left any of them but was a "Stray," but from whence no one could tell. I felt sure in this case the swarm had not issued from either of the four hives, but this was convincing proof.—ALPHA, *Hull, July* 23.

BEES AND ASPARAGUS.

[3340.] I see my bees are to-day busy on asparagus, rue, and thyme in the kitchen garden, eagerly working on all three, and particularly on asparagus. The limes are out and the bees flocking to them as usual, but there is much honeydew on the foliage.—T., *Kent, July* 19.

HORSES STUNG BY BEES AT GEDLEY, NOTTS.

COMPENSATION FUND.

	£	s.	d.
Amounts already acknowledged ...	£1	1	6
Wm. Herrod (Swanley, Kent)	0	2	6
S. Lawrence (Cheltenham).....	0	2	6
John Bradley (Yockleton).....	0	1	0
H. May (Tetsworth, Oxon)	0	1	0
W. Hard (Pulborough, Sussex).....	0	1	0
E. Wide (Devon).....	0	1	0
"Queen Bee" (London).....	0	1	0
C. D. C. (Surrey).....	0	1	0
E. Cook (Stourport)	0	1	0
A. Bonell (Stourport).....	0	1	0

Mr. S. Lawrence writes:—"I send 2s. 6d. for the above fund. Should any action for damages be taken, however, against Messrs. Trimmings and McKinnon, I think the money subscribed ought to go to them."

HOMES OF THE HONEY BEE.

A POSTHUMOUS BEE-GARDEN PICTURE.

The lady whose modest little apiary is shown on next page will no doubt be remembered by readers of this journal through her occasional contributions to its pages under the *nom de plume* of "Bee-Kay." Why her chatty and interesting letters "about the bees" have ceased for some time past will presently appear, but the photo from which the illustration is reproduced was among the earliest received when the publication of our bee-garden pictures began at the end of 1896. We print part of the note accompanying the photo, which, under present circumstances, possesses a sad, melancholy interest of its own, besides giving the real name of the writer, who (dating from Great Grimsby, Lincs., November 11, 1896) says:—

"If the enclosed photo possesses sufficient interest for you to include it in the "Homes of the Honey Bee," please make use of it. I have been a bee-keeper ten or twelve years, and greatly like all connected

with the pursuit. I have for a long time taken your journal and read it with great interest and appreciation. You see I have one skep hive, and though the photo was taken some two years ago, I still retain the 'old friend,' because, to my mind, the picturesqueness of the ancient straw skep is not lightly to be done away with in such an old-fashioned garden as ours. It has done well for me, too, yielding me swarms and some beautiful bell-glasses, so you see it is not all 'for show.'

BERTHA KIRKE ('Bee-Kay')."

Our difficulty in dealing with Miss Kirke's apiary-picture arose from the fact of its containing less than the six hives which, readers will remember, was announced as the smallest number eligible for inclusion in the series. We determined, however, at the time that—when the orthodox "not less than six hives" had been sufficiently impressed on the minds of readers to prevent frequent infringement of the rule—we would relax a little, so as to include "Bee-Kay's" apiary with its five hives, and the owner's other evident "favourites" as shown. We also wrote Miss Kirke at the time, explaining the position, and thus matters rested till the picture was engraved. A *proof* of the tone-block was then sent, together with the usual request for a few more particulars to go along with the picture in print.

In reply, we received a note, dated April 16 last, from Miss Kirke's aged father, which the latter has consented to our inserting here. It needs no comment from us; its sad interest is best conveyed in the venerable gentleman's own words. He says:—

"DEAR SIR,—You have delayed your communication rather too long. Miss Bertha Kirke died on March 3 last. I have had to leave my old home, and am residing here. The bees are all dispersed, but Miss Kirke often expressed some anxiety as to whether her bee-garden picture would be used in your journal.

I have no representation of my daughter amongst her bees, and should feel much gratified if you could send me a few copies of the *proof* received to day. I want to present them to a few of her friends who took an interest in her apiary.

Miss Kirke was my only child; I am left alone at the age of eighty-four—the last of my race!—Yours very truly,

SAMUEL W. KIRKE."

Comment on the above would be entirely out of place here, but we may be allowed to add a line expressive of the sincere sympathy—which will be shared by all readers—with Mr. Kirke in his bereavement, and of regret that so sad a sequel needs appending to our latest "Home of the Honey Bee."

THE LATE MISS B. KIRKE'S APIARY, GREAT GRIMSBY.

METEOROLOGICAL.

DUDDINGTON, STAMFORD, NORTHANTS.

Rainfall, Jan. 2 to July 2, 1898.

1898.	Rainfall, in.	Average, in.	Difference from Average, in.
Jan. 2-29	·81	.... 1·79	.... − ·98
Jan. 30-Feb. 26....	·57	.... 1·66	.... −1·09
Feb. 27-Mar. 26 ..	1·27	.... 1·27	.... average
Mar. 27-April 20 ..	2·10	.... 1·98	.... + ·12
May 1-28	2·28	.... 1·92	.... + ·36
May 29-July 2	1·74	.... 2·31	.... − ·57
Total	8·77	.... 10·93	.... −2·16

FRED COVENTRY.

SEASONABLE QUESTIONS.

ANSWERED BY G. M. DOOLITTLE.

SUCCESSFUL BEE-KEEPING.

Question.—I am a beginner in bee-keeping, having just purchased two colonies, and subscribed for *Gleanings*. Will you please tell me through your department in that paper, in brief, how I may become a successful bee-keeper?

Answer.—This is giving me quite a task, and one upon which might be written enough to fill many numbers of *Gleanings*, and even then "the half never be told." In fact, all of the thousands and millions of words which have ever been written on the subject of bees have had "successful bee-keeping" as their object. Yet, out of the thousands who have read the words written on this subject, how many have become successful bee-keepers? I venture the assertion of not more than one in ten. And before I pass on to the "brief" of the matter, allow me to say that the *success* in bee-keeping, as well as in any other pursuit in life, comes through the *man*. If you are willing to put your whole life and being into apiculture, there is little doubt that success will crown your efforts; but if you go at it in a sort of listless, go-as-you-please spirit, you will stand the same chance others have stood of recording "failure" on your banner.

Now, in brief, to be successful the apiarist must have a simple movable-frame hive of some kind; and the main work up to the general honey-harvest, the time of which should be familiar to the apiarist, should be to secure as many bees as possible on the stage of action at just the time that *harvest arrives*. All know that bees gather honey or nectar, instead of producing or making it, and that the eggs laid by the queen produce bees; consequently the more eggs the queen lays, the more bees we get; and the more bees we have at the right time, the more honey they gather. In fact, one way of looking at it is, the queen is the producer of the honey. Therefore if we wish good returns from our bees we must see to it that we have good prolific queens, and that they fill the combs with brood before the honey season commences, so that when the honey harvest comes the bees will be obliged to place the honey in the sections, or surplus-apartment, as there will be nowhere else for them to store it.

But how shall we secure combs full of brood and plenty of bees to carry on the labours of the hive by the time our honey harvest begins? As soon as spring opens, our bees should be examined by lifting the frames of each hive; and if the colonies are weak the bees are shut to one side of the hives by means of a division-board, so as to keep up the necessary heat for brood-rearing, on as many combs as they can cover. As soon as the queen has filled these combs with eggs I part them in the middle, inserting a comb of honey which has had the sealing to the cells broken by passing a knife flatwise over them, between those occupied with brood, and in a few days the queen will fill this also, and so we keep on until every available cell is occupied with brood. If the bees cannot use up all the honey given at each insertion, give an empty comb occasionally, and do not put in either till those combs they already have are fully occupied with brood; for if you do a loss rather than a gain will be made.

Thus it will be seen that, instead of the queen laying her eggs on the outside of the cluster, she lays them in the centre of the brood-nest, where they should be. After the hive is full of brood and bees it does not make so much difference, as the weather is warm and bees are plentiful, so that the queen can deposit her eggs anywhere in the hive.

As soon as the strongest colonies have their hive full, take a frame of brood just gnawing out and place it in the weaker ones, giving the strong one an empty comb for the queen to fill again, and so keep on until every hive in the apiary is full of bees and brood. When this is accomplished put on the sections, and, as was said at the commencement, if any honey is gathered it must be put in these sections. Each section should have a small piece of white comb or a strip of comb foundation attached to the top as a "starter," and to cause the bees to work more readily in them. The centre tier of sections, if possible, should be full of comb left over from the previous year. As soon as one-fourth of the sections are filled they should be taken off before being coloured by the bees passing over them too long, and empty ones put in their places, thereby causing the bees to work with renewed vigour to fill up the vacant space left where the full ones were taken out. Thus keep taking out full ones and putting empty ones in their places as long as the honey season lasts.

This, in short, is the way I work my bees; and until I entered the queen-rearing business to so great an extent as to have to draw from every colony to supply that business, my average yield of comb honey was not far from eighty pounds per colony, covering a period of over twenty years. The highest average yield in any year of the twenty was 166 pounds, and the lowest was 33 pounds.

I have not written anything new in the above—simply tried to emphasise that which has been put before the public before, for it often seems that we mortals must be told things over and over again before we can have the right kind of knowledge beaten into us.—*Gleanings* (American).

Echoes from the Hives.

Melksham, Wilts, July 21.—I am sending you a sample of extracted honey from this district. Will you kindly examine, taste, and give your opinion on it? We are smothered in white clover about here. We got no honey from the early blossoms, such as fruit-bloom, hawthorn, sycamore, &c., the weather being too utterly bad. Our neighbourhood generally yields splendid honey of great body and good colour. "Why this thusness?" We have had dry and blighty seasons before, but never such a result as this.—J. W. SPENCER.

[1898 bids fair to become notorious as the year of dark honey. See reports elsewhere in our pages.—EDS.]

Alford, Lincs., July 23.—There will be a short crop of honey in our extensive clover district this year, but I fancy those living in the mustard-growing parts of the county will have a good harvest. I had a nice sample of honey this morning from a bee-keeper whose hives are located where fields of mustard are grown; saying he had some honey to spare. He remarked, "It was extracted this week;" and I may say it was quite hard with granulation. This kind of honey always granulates very quickly.—R. G.

Queries and Replies.

[2078.] *A Beginner's Troubles.—Introducing Queens.*—I commenced bee-keeping on June 17 last, with a swarm from one of your advertisers, and I have had an anxious time of it so far; but perhaps, I am in too great a hurry. I put the swarm in a "W.B.C." hive on full sheets of foundation, and during the first week examined the frames very carefully to see if I could find the queen, but could see nothing like one nor any eggs in the cells, though honey was being stored and a little pollen, I therefore wrote to the gentleman from whom I got the swarm about this and he sent me a queen by post. Before introducing her I examined the hive thoroughly, but saw neither queen or eggs, and some of the honey was now capped over. Having no introducing cage I had to get the queen into the hive as best I could and risk her being killed. I took out half the frames, shook the bees on to a cloth in front of entrance and dropped the queen amongst them as they ran in. Some of the bees at once pounced upon the queen but didn't seem to harm her, as she crept from under them and went up quietly into the hive all right. This was on the twelfth day after I received the swarm; four days later I had another look to see if the new queen was accepted, but could not find this one either, and was beginning to feel quite down-hearted, when on shaking the bees from one of the frames I saw fixed at the bottom of the cells some tiny white specks hardly the thickness of a pin point; and on examining closely I found them on another frame also. 1. Are these eggs? If they are I suppose there is or has been a queen in the hive, but I thought that in four days there would have been more eggs and some grubs hatched out. I have fed the bees every night with half a pint of syrup made according to "Guide Book," given in a bottle feeder with half the holes turned on, and the two frames of comb under the feeder developed so fast that I placed an empty frame between them, but the bees still continued elongating the cells of these two combs that they are now of an extraordinary thickness on both sides in the upper part of the frames, and thus encroach upon the others. 2. What must I do with these thick combs? It is impossible to interchange them. Do you think it is all honey the bees have stored, or is it syrup? I should think there are quite a dozen pounds in the combs, and it is of light colour like the syrup. In about three weeks I presume many young bees will be hatched out. 3. Can I put supers on then or will it be too late? I suppose it will be no use putting them on before. There are still two frames of foundation to draw out, but I should think the bees will not be long about them as white clover is now in full bloom here, You will probably be tired of this long letter, but being the only bee-keeper for miles around I have no one to advise me.—IGNORAMUS. *Hoghton, near Preston.*

REPLY.—1. Yes, undoubtedly. 2. The abnormal thickness of the combs would be the result of inserting an empty frame between. The remedy is to cut the lengthened cells down when the brood below has hatched out or remove them altogether when convenient. If you have given syrup in quantity it will be stored. Worker bees hatch out in twenty-one days from time the egg is laid. 3. When the remaining sheets of foundation are drawn out and bees are strong, supers may be put on if honey is plentiful; otherwise it is no use giving surplus-room.

[2079.] *Transferring Bees to Frame-Hives.*—Wishing to transfer a stock of bees, I placed the skep containing them on the top bars of bar frame-hive in the latter end of June, the weather previously being unsuitable. Yesterday I thought I might remove it, and did so. I experienced, however, great difficulty in clearing the bees from the skep. I observed there was some drone-brood in it nearly ready to hatch out, but I concluded that the queen was below in the frame-

hive, and I had put a shallow-frame super on the latter without knowing where the queen was. I left it. I placed the skep on another stand, where they now are. The bees in the frame-hive hang round the entrance very thickly; but this they did previously to operation. What is the right course? Will bees in skep try to raise another queen? I apprehend this is impossible. The bees do not seem vicious (either in skep or hive)., as they generally are when the queen is forcibly removed.—G. G., *Honiton, July* 17.

REPLY.—If queen remained behind when the skep was removed from frame-hive the latter will, of course, be all right; but it is by no means certain that the skep is safe as regards ever becoming of much use as a separate stock. In fact, it is more than probable that the bees therein have no means of raising a queen for themselves. Removal of the colony's brood-nest and queen below—some weeks ago it may be—would make it so nearly certain that no eggs or young larvæ were left in the skep, as to make us advise inspection of the latter without delay, and if need be we should save the bees by putting them back into the frame-hive.

[2080.] *Brood in Sections.* — 1. All my sections and supers of shallow-frames are this year filled with dark-coloured honey. Up to about a fortnight back the bees worked at the holly blossom. Do they gather honey from that? They did not commence on the clover until the third week in June. There was a field of trifolium in bloom about two miles away, and the hawthorn flowered at same time. The flavour is not bad, and people don't dislike it, but as a rule my honey is very light in colour (as at Dairy Show in 1897), and I cannot account for the dark appearance this year. 2. I placed a rack of empty sections under a nearly filled one not long ago, and when I took the full one off two days after I found brood in most of the sections; some of it was dead and smelled rather badly. Would it be chilled brood? as it became very cold for a night or two, and the bees left the sections and went below. I have never had any foul brood about my bees, and the hive is strong enough.—S. C., *Shrewsbury, July* 13.

REPLY: — 1. The prevailing flavour and appearance of honey sent points, we think, to *Trifolium incarnatum* (or crimson clover) as the source from whence it comes. We don't detect anything like honeydew in it. If kept till granulated it will make a good honey for market, as the flavour is very fair and will probably improve when it becomes solid. 2. No doubt the brood was chilled, and this is one of the risks incurred when queens have access to surplus chambers.

[2081.] *Changing Positions of Hives after Driving.*—I have two stocks in straw skeps in my apiary and I purpose driving them the first week in August and uniting the two driven lots in a frame-hive. I want the latter to stand about twelve yards from the position where the skeps now stand in my apiary as the ground there is very uneven. Is there any danger of the bees returning to the old stands after driving, or would they take to the frame-hive as a swarm would? This is my first year with bees, and I am very pleased with the result so far. On May 10 I put a crate of shallow frames on one of my hives and on June 15 I put another underneath that, and another underneath those on July 1. I took the top crate full of honey off on July 5, and after extracting I returned them to be refilled. I may say that my success is largely due to your "Guide Book" and the B.B.J., which is a very interesting paper.—W. E S., *Pershore, July* 15.

REPLY.—There need be no fear of bees returning to the old stand after "driving" and putting them in a frame-hive.

Bee Shows to Come.

August 1, at Beddington, near Croydon.—Surrey Bee-keepers' Association Annual Show, in connection with the Beddington, Carshalton, and Wallington Horticultural Society. Additional open classes. Increased prizes and medals, including Open Class for Single 1-lb Jar and Single 1-lb. Section with free entry. Schedules from F. B. White, hon. secretary, Marden House, Redhill. **Date for closing entries extended to July 29**

August 1, at Melton Constable Park.—North Norfolk B.K.A. Annual Show. Three open classes.

August 1 and 2, at Althorp Park, Northampton.—Northants B.K.A. Honey Show, in connection with Horticultural Society's Show.

August 8, at Church Gresley.—Honey Show in connection with the Floral and Musical Fête. The Derbyshire B.K.A. Silver Medal and money prizes for six sections and for six 1-lb. jars honey. Open class for 1-lb. section and 1-lb. jar—1st prize, £1; 2nd, 10s. Entry forms from T. Legge, Secretary, Mushroom-lane, Church Gresley. **Entries close August 1.**

August 10, at Clutton, Bristol.—Somerset and South Glos. B.K.A. Annual Show in connection with Clutton Horticultural Society. Six open classes. Schedules from Miss H. Dawe, Long Ashton, near Bristol.

August 10, at Marlow, in connection with the Marlow Horticultural Society. (Under the auspices of the Berks Bee-keepers' Association.) Show of Hives and Appliances, Honey, Bees Nine classes. Excellent prizes offered. Schedules from A. D. Cripps, Esq., Hon. Sec., High-street, Marlow. **Entries close August 6.**

August 11, at Victoria Pleasure Grounds, Goole. Honey Show in connection with the Agricultural Society. Six open classes, including one with 20s. and 10s. prizes for single 1-lb. jar extracted honey (entry free in this class). Schedules from J. Ludlington and N. S. White, Secs., Lindum House, Goole. **Entries close August 6.**

August 11, at Keele, Staffs.—Honey show, in connection with the Keele Agricultural and Horticultural, Dog, and Poultry Shows. Schedules from W. A. Benson, Secretary, Silverdale, Staffs.

August 13, at Dumfries.—In connection with "Band Contest," the South of Scotland B.K.A. will hold a honey show as above. **Two open classes for "Three's."** Schedules from Mr. J. Kerr, Hon. Sec., Douglas-terrace, Dumfries. **Entries close August 6.**

August 13, at Stoke Prior, near Bromsgrove.—Honey Exhibition in connection with the Stoke Prior Horticultural Society. Seven open classes. Three "Gift" classes of two 1-lb. sections of honey, two 1-lb. jars extracted honey, and single 1-lb. jar candied honey. Liberal prizes. Schedules, entry

forms, &c., from Percy Leigh, "Beemount," Stoke Prior, near Bromsgrove, Worcestershire. **Entries close August 6.**

August 15 and 16, at Felling.—Northumberland and Durham B.K.A. honey exhibition, in connection with the Felling Flower Show. Schedules from T. Russell, 17, Stephenson-terrace, Felling. **Also at Gateshead, August 29 and 30.**—In connection with the flower show. Schedules from T. H. Armstrong, 111, Prince Consort-road, Gateshead. **Entries close August 20.**

August 17 and 18 at Dover.—In connection with the Dover Horticultural Society at Dover College Grounds. Additional open classes. Increased prizes and medals. Schedules from H. W. Brice, Hon. Sec. Kent and Sussex B.K.A., Dale Park, Upper Norwood, S.E.

August 17 and 18, at Blackpool.—Honey show in connection with the Blackpool and Fylde Horticultural Society, under the auspices of the L. & C. B.K.A. Schedules from C. E. Riding, Secretary, 9, Central Beach, Blackpool. **Entries close August 8.**

August 17 and 18, at Ince Hall, near Chester.—Open classes for six 1-lb. jars, three 1-lb. granulated, and single 1-lb. jar. Schedules from the flower show secretary, Ince, near Chester

August 17 and 18, at Shrewsbury.—Shropshire B.K.A. Annual Show of Honey, "The Quarry," in connection with the Horticultural Fete. Schedules from Jno. Palmer, Hon. Exhibition Secretary, 17, Brand-lane, Ludlow. **Entries close August 10.** Fifteen open classes. (See Advt. on p. ii.)

August 18, at Biggar, N.B.—Biggar Bee-Keepers' Association. Annual Show of Bees, Honey, Hives, and Appliances. Sixty-six prizes in twenty-four classes. For schedules, apply to Wm. Ormiston, Secretary, Fernbank, Biggar. **Entries close August 11.**

August 18 and 19, at Harrogate.—Knaresboro' and District B.K.A. Show of Honey, in connection with the Harrogate Horticultural Society. Schedules from C. B. Elmhirst, Secretary K. & D.B.K.A., Farnham, Knaresboro'.

August 19, at Exeter (Devon B.K.A.).—In connection with the Devon and Exeter Horticultural Society. **Open Classes**, with liberal prizes, for six sections, and for six 1-lb. jars extracted honey, also for best exhibit of honey not exceeding 28 lb. Nine classes for members only. Schedules from H. Tolson, Hon. Sec., Park House, St. Thomas, Devon. **Entries close August 6.**

August 24, in Neston Park, Wilts.—Honey exhibition in connection with the Atworth and District Horticultural Show. Seventeen classes with liberal prizes, including single 1-lb. jar and single section, with free entry. For particulars apply to J. P. Inkpen, Sec., Atworth, Melksham. **Entries close August 20.**

August 24, in the Town Gardens, Old Swindon.—Wilts B.K.A. County show in connection with the Horticultural Fete. **Four open classes.** Schedules from W. E. Burkitt, Hon. Sec., Buttermere Rectory, Hungerford. **Entries close August 14**

August 27, at Windsor.—Windsor and District Branch, Berks B.K.A. Bee and Honey Exhibition, in connection with the Liberal Club Annual Flower Show. Schedules from J. Hyde, jun., Hon. Sec., 55, Bexley-street, Clewer. **Entries close August 18.**

August 27, at Withington, Manchester.—Honey Show in connection with the South Manchester Horticultural Society. Seven classes for honey, including open class (entry free) for single 1-lb. jar. Schedules from F. H. Taylor, Birch Fold Cottage, Old Hall Lane, Fallowfield, Manchester. **Entries close August 13.**

August 31 and September 1, at Burslem, Staffs.—Annual Bee and Honey Show of the Staffs B.K.A., in connection with the Staffordshire Agricultural Society. Sixteen classes for bees, hives, honey, and appliances. **Four open classes**, including class with three prizes for 1-lb. section, 1-lb. jar, and 4 oz. beeswax. Schedules from Ellis E. Crisp, Sec. S.B.K.A., 8, Jesson-street, Coventry. **Entries close August 6.**

September 7 and 8. At the Cattle Market Derby.—Derbyshire B.K.A. Seventeenth Annual Exhibition of Bees, Honey, and Appliances, in conjunction with the Show of the Derbyshire Agricultural Society. Liberal prizes. **Eight open classes.** Schedules from F. Walker, Hon. Sec. D.B.K.A., 64, Gerard-street, Derby. **Entries close August 31.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

W. B. W. (Torquay).—*Swarms not Breeding.*—The fact of the swarm issuing so late as July 11 suggests several explanations of no brood being found fourteen days after swarm was hived. Consequently, you must give us more details of the swarm and stock from whence it came. It may be a cast, or a swarm from an early swarm of this year; in fact, it may be half a dozen things, which would make our reply mere guesswork, by your simply calling it "a swarm of July 8," and saying nothing more to help us in arriving at an accurate decision.

E. D. (Salisbury).—*Removing Bees from Roofs of Buildings.*—Instructions will be found in B.J. of August 1, 1895, which can be had from this office for three-halfpence in stamps. Had full name, &c., been sent, we would have forwarded the copy mentioned.

"WARWICKSHIRE" (Birmingham).—*Choosing Frames.*—Our personal preference is for the ordinary standard frame—to be had from any dealer—with saw-kerf in top-bar, and the "W. B. C." end as a distance keeper. We have no great liking for anything "patent" about a bee hive.

R. H. (Fryup).—1. The bee sent is a young queen of the ordinary or common variety. 2. Yes, you did quite right.

A BEGINNER (Llanio-road, South Wales).—*Italian Queens.*—You will find the names of both Italian and English dealers who advertise Italian queens in our columns. It is not at all late to buy one and introduce her this season.

M. Y. (Somerset).—Yours, dated 19th inst., must have missed in post, it never having reached this office. We have delayed this reply till full inquiry could be made on the subject. If you send another sample reply shall follow by next post.

The numerous correspondents who have within the last ten days sent samples of dark honey will please take it for granted that the mischief in every case is more or less caused by the prevalence of honey-dew in the district where the hives are located. See first page of this issue for further particulars.

*** *We are again compelled to defer replies to several Letters and Queries till next week.*

Special Prepaid Advertisements.

Twelve words, Sixpence; for every additional Three words or under, One Penny.

BEES.—NATURAL SWARMS, 10s. 6d. each. Boxes to be returned. E. LONG, Fulbourne, Cambs. W 2

BEST HONEY WANTED (comb and extracted). Sample to F. SLADEN, Ripple Court Apiary, Dover. W 40

DRIVEN BEES FOR SALE. Apply, W. MARTIN, Well Cottage, Dawnley, High Wycombe. W 46

PURE HONEY in 12 lb. tins at 6½d. per lb. DAVID HANCOX, Deddington, Oxon. W 54

Prepaid Advertisements (*Continued*).

QUEENS, 2s. 6d. each, free. Three framed Nuclei with Queen, 12s. 6d. E. WOODHAM, Clavering, Newport, Essex. W 39

EXTRACTED HONEY, 6½d. lb. 30 lb. tins. Sample 3d. Sections 8s. dozen. LING, Shady Camp, Linton, Cambs. W 33

LADY would be glad to meet with another to join her in a Bee, Poultry, and Fruit Farm. Address, A., *Bee Journal*, Strand, London. W 31

HONEY. Finest White Clover and Heather Wanted. Post samples to SPRING & Co., LTD., Brigg, Lincs

NEW HONEY LABELS and LACE PAPER, each 7d. per 100 or 2s. per 500. Free.—GRIMELY, Minster, Ramsgate. W 25

FINE SELECTED ENGLISH QUEENS, tested, 5s. each, sent in introducing cage. W. WOODLEY, Beedon, near Newbury.

NEW HONEY, in bulk, £3 per cwt. Small sample, 6d. OWEN BROWNING, Kingsomborne, Stockbridge, Hants. W 45

BEST LINEN SCRIM for making bee bags (see page 274 of *B.J.*), 27 inches wide, 4½d. per yard, six yards post free. D. TYALOR, Ilminster. W 43

FOR SALE, 500 well-finished 1 lb. SECTIONS COMB HONEY. What offers? On rail or delivered. ERNEST E. DAVIS, Great Bookham, Surrey. W 39

"LITTLE WONDER" EXTRACTOR with ingenious gearing, only 8s. Melton House, Knowle, Bristol. W 51

WANTED, HONEY EXTRACTOR in good condition. Cheap or hire. State particulars, CHAPMAN, Sunnyside, Spring Grove, Isleworth. W 56

FIFTEEN strong STOCKS of HEALTHY BEES, £1 each in Standard Frame Hives. Must sell for want of space. M. BENNISON, Scorton, Darlington. W 52

HONEY FOR SALE, Extracted, 7d. per lb., tins and crates free. Sections 8s. per doz., samples 3d. H. MAY, Kingston, Tetsworth. W 48

DRIVEN BEES, strong lots. Sent at once, 4s. per lot. Orders in rotation. BASTABLE, Bee Farm, Shillingstone, Blandford. W 53

EXTRACTOR FOR SALE (cost 13s. 6d.) Exchange Poultry or fruit. HOCKETT, Potter's-road, New Barnet. W 47

SPLENDID NEW HONEY. 6½d. lb. Sample 2d. Cash or deposit. Bees, good strong Stocks, 8 Frames, £1, 6 frames, 17s. Guaranteed healthy. ALBERT COE, Ridgwell, Halstead, Essex. W 41

FOUR good STOCKS in Straw Hives, with fertile queens of '97 and '98, 12s. 6d. and 14s. 6d. Three-frame Nuclei '98 fertile queen, 12s. 6d., eight-frame stocks, 22s. Guaranteed ,healthy.—WOODS, Normandy, Guildford. W 44

TEN strong STOCKS of BEES in skeps, very heavy, 12s. each, or £5 the lot. Honey alone worth double. Honey is chiefly from White Clover. W. BURDEN, Mere, Wilts. W 55

SMALL SWARMS with young fertile queens for building up or uniting to queenless stocks, 5s. 6d. case included, on rail. Fertile queens 3s. 9d. each, delivered. ALSFORD, Expert, Blandford.

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. Neat Patterns. W. WOODLEY, Beedon, Newbury.

QUEENS, choice, special-raised, guaranteed satisfactory. Fertile 3s. 6d., virgins 2s. Post free in introducing cage. Send for circular.—"Beecroft," Ashford, Staines. W 23

THOS. J. HORSLEY, has comfortable APARTMENTS for brother bee-keepers visiting the Isle of Man.—Merridale House, Empire-terrace, Douglas, Isle of Man. W 27

QUEENS, Stocks, Nuclei, and Swarms. Queen raising a speciality. Eleventh season. Address, Rev. C. BRERETON, Pulborough, Sussex.

BRICE'S RELIABLE QUEENS. Well-known strain, one quality, one price. Mated tested Queen, 5s. 6d.; Virgins, 3s. each. Post free in my perfected travelling and introducing cage. Quality and safe arrival guaranteed. HENRY W. BRICE, Dale Park-road, Upper Norwood

FOR SALE, STOCK and SWARM, headed by '97 queens, very strong, 15s. and 10s. Stock and swarm, headed by '98 queens, fairly strong, 12s. and 10s. All in flat-topped skeps. Packing and skeps free. JAMES TODD, Armathwaite, Carlisle. W 50

BEES of my well-known strain, fine tested 1898 Fertile Queens, 3s. 6d. each, safe arrival guaranteed. Strong three-frame Nuclei with Queen, 12s. 6d., six-frame Stocks, 20s., eight-frame ditto, 22s. 6d. Bees, 1s. 6d. per lb. for 5 lb. lots and over. Queen included. Packages to be returned. Guaranteed healthy. WHITING, Valley Apiaries, Hundon, Clare, Suffolk. W 42

TO BEE-KEEPERS REQUIRING RELIABLE STOCKS. —The site of one of my apiaries being required for other purposes I have about 30 STOCKS FOR DISPOSAL, on wired combs. Headed with young prolific queens. Packed and put on rail from 17s. 6d. each, hives included. Guaranteed healthy. ALLEN SHARP, The Apiary, Brampton, Huntingdon. W 54

DRAWN-OUT SECTIONS for MOORS. Having produced more of these than needed for own use can offer a few at the following prices.—1 doz. 3s., 2 doz. 5s. 6d., 4 doz. 10s. post free, or 16s. per 100, on rail. Carefully packed. The sections are all quite new and unsoiled, and not mutilated by saw cut, and the comb is beautifully white and attached to wood all round without pop holes. Sample, post free 5d. J. M. BALMBRA, 2, East Parade, Alnwick. W 49

THE SCOTTISH BEEKEEPER.

PUBLISHED FORTNIGHTLY. **3s. 3d.** per annum, Post free.

Send stamp for specimen copy of current number. It will please you.

WILLIAM ORMISTON,
BIGGAR, N.B.

SELF-CLOSING HONEY TINS.

1 lb., 12s. gross, 1s. 2d. doz.; 2 lbs., 20s. gross, 2s. doz.; 4 lbs., 30s. gross, 3s. doz.; 7 lbs., 45s. gross, 4s. 6d. doz.

Apply to **HUNT & HUNTLEY,**
2, Bridge-street, Worcester.

SCREW-CAP HONEY BOTTLES.

ENGLISH MAKE.

16 oz. in bags of 10 doz., **12/9**; 7 oz. in bags of 6 doz., **7/-**. Packing free.

Sections, Weed Foundations, Hives, &c.

CARNETT BROS., 29, High St., ROTHERHAM.

KENT AND SUSSEX B.K.A.

Annual Exhibition of

BEES, HONEY, and APPLIANCES,

at **DOVER,** on **AUGUST 17 & 18,**

In connection with the Dover Horticultural Society's Fête, College Ground, Dover.

Increased Prizes, Medals, &c.
Many Open Classes.

Schedules and information from HENRY W. BRICE, Hon.Sec. K.& S.B.K.A., Dale Park, Upper Norwood, S.E.

ENTRIES CLOSE AUGUST 6.

AUGUST 31st & SEPTEMBER 1st, at BURSLEM.

ANNUAL SHOW OF THE STAFFORDSHIRE B.K.A.

IN CONJUNCTION WITH THE STAFFORDSHIRE AGRICULTURAL SOCIETY.

COLD, SILVER, AND BRONZE MEDALS, AND LIBERAL MONEY PRIZES.

16 Classes, including Open Classes for SECTIONS, EXTRACTED HONEY, and APPLIANCES.

Schedules from ELLIS E. CRISP, Secretary S.B.K.A., 8, Jesson Street, Coventry.

Entries Close August 6th.

Editorial, Notices, &c.

A REMARKABLE HONEY SEASON.

"HONEY-DEW," WHAT IS IT?

It is more than probable that 1898 will be set down in bee-history as a record year for the production of what is known as "honey-dew." Anyway, with over thirty years of active bee-experience behind us—and an intimate knowledge of current bee-literature during twenty-five of those years—we venture to say that nothing so remarkable in the way of honey-seasons, so far as the extent of the area covered by the plague, has occurred within living memory. Honey-dew has, no doubt, been abundant enough in bygone years, at rare intervals and in scattered districts wide apart, quite enough to spoil or seriously damage the crop of many a bee-keeper; but none will remember when the mischief was so generally prevalent as this year. From all parts of the kingdom we have reports, accompanied by scores of "samples" wherewith to verify the same, declaring that the like of it has never been seen before; a proposition with which we entirely agree. Since we briefly referred to the matter on page 291 last week, it has been demonstrated, to *our* satisfaction at least, that honey-dew has "fallen" not in equal abundance everywhere, but quite plentiful enough to cause a serious monetary loss in the value of their crop of honey to a large number of our readers.

The varying nature of the complaints just received as to the extent of the evil, and the numerous enquiries regarding the nature and real cause of it, render it incumbent on us to say a word or two on the broad question of what is "honey-dew"? so-called from its being supposed by the ancients to descend from above, as does the "dew" known to us all. That it is not (as our reverend correspondent "C. C. J." puts it on p. 292 last week) "sent from heaven like the manna in the wilderness," most bee-keepers will agree; but, let us add, neither is it quite so bad as to warrant its connection with the "other place," dominated by "*Beelzebub*, the lord of flies," as is, again jocosely, added by our reverend friend. That is to say not in the exact sense in which some regard the simile; and especially those who claim the title of bee experts.

To be very plain then, and to remove a false impression—where such exists—in regard to honey-dew, let us say it is not "the excreta of the aphis, or green fly," as some suppose. "Excreta" is the refuse, or waste matter from food which is, perforce, discharged from the animal body after all the nourishing material has been extracted. "Honey-dew," on the contrary, is a saccharine substance, or sweet juice which at times, and under certain atmospheric conditions, exudes from the surface of the leaves of trees and plants. Consequently, there is no real analogy between the two substances. The connection of the aphidæ with the matter no doubt arises from the fact of bees visiting trees where the so-called honey-dew abounds, and carrying off the saccharine substance to their hives. Now, when we state that in some seasons (happily rare)—of which we may quote the present one as a model for enforcing our argument—so abundant is honey dew that it is discharged by the aphidæ in the form of a fine liquid spray on to the surrounding leaves, and, after accumulating there, it drops from the leaves in such quantity as to wet the ground beneath. This being so, it will be readily understood by readers what an amount of damage will thus be done so far as the quality of honey already stored in the hives.

But we must go still further in differentiating between aphidian honey and the nectar gathered by bees from flowers, in order to account for the very objectionable error regarding the nature of honey-dew. It is generally known to bee-keepers that the bee regurgitates the contents of its honey sac directly into the store cells by means of the long proboscis-like tongue with which it gathers the nectar. On the other hand, the sweet juice referred to above is ejected by the aphidæ through two straight tubes, which project beyond the body of the insect above the ordinary orifice. This fact, no doubt, gave rise to the "excreta" notion, which is an entirely erroneous one. It is bad enough to acknowledge the existence of aphidian honey as a veritable transformer of good honey into bad, but there is no reason

why we should make bad worse by propagating errors of this kind.

So much, then, for honey-dew, which it must be admitted has spoiled a good part of the crop gathered during the past month, and operated very adversely against the success of honey shows so far held this season. It was hoped, however, that Scotland and Ireland would have been spared from the honey blight which has fallen on England and, we fear, Wales; but, judging from reports to hand, our Scotch and Irish friends have fared little better than our own northern counties of Yorkshire, Cumberland, and Durham, while the latest news we have from Ireland refers to a honey show held at Ennis, co. Clare, where we learn that "the remarkably large amount of honey-dew that showed itself in both comb and extracted honey served to disqualify many otherwise fine exhibits."

The question then arises, will honey of good quality have already been secured, or is it likely to be got this year in sufficient quantity to meet the demand for such? We are led to make this inquiry because of our having only two or three days ago received a couple of samples which were to us a revelation for honey of 1898! One of the two is simply perfect in colour: good in consistency and aroma and of capital flavour; in fact, an excellent honey for any year. The second is far behind on all points, but still a good honey compared with what we expected to see, bearing in mind what had gone before. If, however, there are even a few districts where bees are kept in quantity and where honey such as we are referring to has been obtainable, the inevitable conclusion follows that the blight has not extended entirely over the three kingdoms. It is also just possible that the recent heavy rain (which has gone a long way towards exterminating the aphide in our own district of the south) may be more helpful in saving the crop further northward. Therefore, as good honey this year will doubtless fetch full value, those who are fortunate enough to secure it should take the hint and act in accordance therewith in fixing prices.

We fear, however, that the bulk of our readers will have to consider a large proportion of the dark honey gathered this season as food for bees only. What, for instance, can be done with such honey (?) as is described by "a Somersetshire bee-keeper," who, writing in our monthly, the *Record*, says:—"I have got about 6 cwt. of honey nearly as black as coal tar!" Or what can be said to a second correspondent (evidently a jokist), who thinks his honey "must have been gathered from the coal-black rose!" As for readers generally, our shelf at King William-street has been filled twice over with a collection of honey samples of 1898, the like of which we hope never to see again in *our* lifetime.

But as no possible good can follow our naming the districts from whence come the "awful examples" of '98 honey we have been favoured with, we simply say they are from every part of the kingdom. And as we are now enjoying perfect bee-weather; that only four days ago we saw, in Essex, fields white with clover bloom; and that the beautiful sample of honey to which we have referred comes like a "ray of light" (honey) among so much of darkness—we would fain see it supplemented by at least *some* fragrant, good-flavoured, and freshly-gathered honey of the present season. If there is such, we should be only too pleased to either see or hear of it.

HONEY SHOW AT CAMBRIDGE.

The Cambs. and Isle of Ely B.K.A. held its annual exhibition on July 28, at Cambridge, in conjunction with the show of the Cambs. and Isle of Ely Agricultural Society. Considering the unfavourable aspect of the honey season in this district, the display was a very fair one. The awards made by the judge, Mr. T. I. Weston, were as follows:—

Twelve 1-lb. Sections.—1st, W. R. Billing; 2nd, H. Seamark; 3rd, F. Morley.

Six 1-lb. Sections.—1st, W. R. Billing; 2nd, H. Seamark; 3rd, J. Barnes.

Twelve 1-lb. Jars Extracted Honey.—1st, F. Morley; 2nd, F. R. Ford; 3rd, W. R. Billing.

Three Shallow Frames of Comb Honey.—1st, F. R. Ford; 2nd, Johnson & Son; 3rd, H. Seamark.

Bees'-wax.—1st, W. R. Billing; 2nd, J. Barnes.

Display of Honey.—1st, H. Seamark; 2nd, F. R. Ford.

Three 1-lb. Sections (open).—1st, W. R. Billing; 2nd, H. Seamark; 3rd, F. Morley.

Single 1-lb. Jar of Extracted Honey (open).—1st, F Morley; 2nd, W. Woods; 3rd, F. R. Ford.—(*Communicated.*)

SHOW AT HELSLEY, CHESHIRE.

The annual exhibition of honey in connection with the Helsley (Cheshire) Flower Show was held on Saturday, July 30. Owing, no doubt, to the very indifferent season, the number of entries was considerably less than last year; and, as some of the exhibits were not sent, the quantity of honey staged showed a large falling-off. Mr. W. E. Little, of Chester, acted as judge, and made the following awards :—

Six 1-*lb. Jars Extracted Honey.*—1st, Owen Roberts, Tarporley; 2nd, W. Loveday, Harlow, Essex; 3rd, H. W. Seymour, Henley-on-Thames; h.c., A. Goodier, Runcorn, and J. Acton, Norton, Runcorn.

Three 1-*lb. Jars Granulated Honey.*—1st, Owen Roberts; 2nd, W. Loveday; v.h.c., A. Newstead, Ince; h.c., John Acton and J. M. Harnamann, Alvanley.

Single 1-*lb. Jar Extracted Honey.*—1st, Owen Roberts; 2nd, W. H. Woods, St. Ives, Hunts; 3rd, H. O. Smith, Louth, Lincs; 4th, C. Cox, Brampton; v.h.c., W. Loveday; h.c., A. Goodier.

1-*lb. Bees' Wax.*—1st, W. Loveday; 2nd, Rev. E. Charley, Ince.

(*Communicated.*)

GOOLE SHOW.

Will you kindly allow us to inform your readers that owing to the unfavourable honey season our committee have decided to allow honey of any year to compete at the above show, instead of confining the competition to honey of the current year as per schedule.—J. LUDDINGTON and H. S. WHITE, secs., *Goole, July* 27.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[3341.] The advent of August brings us Southrons to the end of our honey harvest, except in a few favoured localities where there is a breadth of heather on which the bees may work a week or two longer. In the flower districts proper, however, the harvest is ended for 1898, and the crop, I fear, will not exceed half an ordinary one. The quality, too, of the later gathered portion will be inferior; in fact, in no year since 1884 have we had, in our district, so large a proportion of dark-coloured honey as this year. Bees have worked with a will during the past month, showing that their working vigour has not abated when the weather is propitious for the in-gathering.

Having now reached the end of the season's harvest, our next thoughts will be to put the crop on the market in the best possible form, and realise the best market price for our produce. To secure the latter we must endeavour to carry out the former; each section as removed from the racks should have every particle of propolis and wax removed from it. This job should be done on a clean table, or, if domestic difficulties arise, a wide board laid on a newspaper will protect the furniture, while a little care will do the rest and prevent bits of wax and propolis being trod under foot. Then, while the scraping is done, grade the sections into classes—1st, 2nd, and 3rd respectively—according to colour, quality, and weight. Those falling below 3rd quality should be extracted, and the sections given back to the bees to clean up, leaving the empty combs for use another year for rendering into wax.

The No-Bee-Way Section.—These have not had a fair trial in my apiaries, as they did not reach me till the season was far advanced. The few I have tried are $1\frac{3}{4}$ in. wide, with Root's cleated "fences," and—when full—scale 17 oz. to 18 oz., so that Mr. Ernest Root is right as to width when stating that a $\frac{7}{8}$ in. wide section holds 1 lb. of honey when full. But what are the advantages of these sections over the ordinary two-bee-way? I fail to find any. The rack that holds twenty-one ordinary sections, used with metal dividers, holds only eighteen of the no-bee-way and the necessary "fences." Had I used a narrower section I might possibly have got the twenty-one no-bee-way sections into the rack, but are they better filled? Not one whit. Any way, I have had the two-way sections better filled under the same conditions. Again, are they better or easier to handle? I say certainly not. The two-way sections are, to my mind, far easier handled and with less liability to damage the comb, while they glaze better, and, in fact, present a better-looking shilling's worth than the "new idea" section. I therefore hold that the no-bee-way section has not come to stay this side the fish pond, and for myself I shall not require any more of them so long as I can obtain Messrs. Root's usual two-bee-way No. 1 quality. Neither do I see any advantage in using a section folding-machine, as their sections fold easily by hand, while a little extra pressure at the toothed corner and the section folds square and true. Another appliance much extolled by our brethren of the craft in America is the "section-cleaner." I do not think this is required in our apiaries. At least, I can speak for myself, and say our sections are *never made dirty*, so that no scouring or cleaning is required. Bee-keepers may save a large amount of labour if they are

careful and clean in all their work in the apiary. I also find that the bees use more propolis with the fences than with the metal dividers. I use slotted tin dividers, but the best I have in use are some very thin slotted zinc dividers I got some eight or ten years ago. These allow the sections to be wedged up very close, and thus there is very little room for the bees to fill, and consequently very little propolisation. This saves the bee's labour in gathering propolis and the bee-keepers' trouble in scraping it off again. If beekeepers will notice towards the end of the season when bees seem very busy, they will find that they are simply gathering propolis and very little honey. They thus occupy days in sealing over sections which earlier in the season would be done in as many hours.—W. WOODLEY, *Beedon, Newbury.*

VARIOUS "BEE NOTES."

[3342.] An early morning in July found me speeding from the centre of England towards the West Country, and a beautiful morning it was, the sun shining brightly and the air redolent with the scent of myriads of flowers. In South Derbyshire the year has been most disappointing for bee-keepers. The bees came out of winter quarters in very good condition, but rather short of food. Steady feeding brought most stocks up to the boiling point by the end of May, and when supers were put on they were soon in possession of the bees; but when honey began to come in, in quantity, the so-called "honey fall" commenced, and up to to-day (August 1) there has been no improvement. I have extracted week by week, hoping each time to obtain a better sample, but the quantity of aphidean abomination has been sufficiently abundant to spoil the whole of the harvest. My neighbours are similarly fixed, and we are all in a dilemma as to what use we can make of the stuff! In passing through Cheshire the meadows were white with clover, as, indeed, they were all along on either side of the railway until Conway was reached.

This locality has for generations been noted for its honey, and every autumn a honey fair is held in the old town of Conway. The country people bring their honey in tin pails, and stand on the pavement on either side of High-street, selling it by the *quart*. A good price is obtained, and wax finds ready buyers. I know of no locality more favourable for the keeping of bees than the valley of the Conway, as there is abundant pasturage from early spring till late in autumn. Primitive methods are, as a rule, adopted, but there are a few who manage bees in modern ways, and one of these I had the pleasure of visiting. Mr. John Berry, of Llanrwst, is a working man, who at present owns seventy-three stocks of bees, most of them in hives that he has himself made after his day's work is over. Mr. Perry's apiary will be familiar to your readers as one of the "Homes of the Honey Bee," shown in the BEE JOURNAL of March 18 last year. It is in the midst of a country town, and though by no means a model apiary, he is, without doubt, a model apiarian, and in all bee matters is well abreast of the times. To hear how he deals with foul brood, *and masters it also*, was most refreshing. He secures an enormous quantity of honey, and, by the help of his good lady, is able to dispose of most of his honey and wax. Splendid honey had been coming in for several days, and the sight of the sections and extracted honey that I saw made me hope that my own bees were forsaking their evil ways, leaving the "honey dew" alone and gathering only the genuine article.—GWENYN, *August* 1.

STING REMEDIES.

[3343.] I can sympathise with "F. C." (3338, p. 294) anent having his "bunged-up" eye, as I have had both of mine closed, separately and together. If stung above the eye, it is almost certain to be closed unless the remedy is applied at once. But I am a believer in being able to find remedies for this kind of trouble close at hand, seeing that neither the bluebag, ammonia, nor other common remedies have ever given me any relief. One remedy, however, which I have never seen recommended in print anywhere, but which serves my purpose admirably, is to pick a leaf of the tobacco plant (*Nicotina afinis*) or of prickly comfrey (*Symphytum asperrimum*). Crush the stem of it between the fingers and rub the juice on the spot *at once*. This done, the trouble in my case is over in five minutes, and there is no swelling. A root of comfrey can be got on any farm, and if planted near the hives is always handy, while, being a perennial, will last for ever. Possibly other plants would work as well on some system.—G. NEWMAN, *Camberwell.*

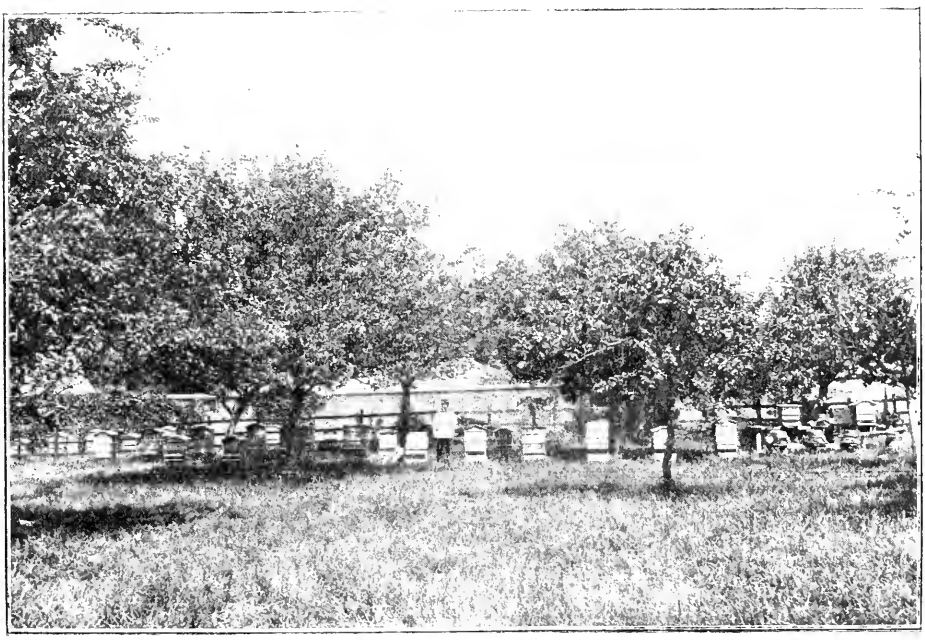
HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Our illustration this week depicts the orchard apiary of Mr. Percy Wilkins, situate near the town of Wantage, Berks, historically famous as the birthplace of Alfred the Great, a statue of the renowned king standing in the market-square of the town. Mr. Wilkins began bee-keeping eight years ago, in the place whereon the hives now stand, with two skeps, and the total number of colonies now totals sixty-seven, so that progress has been unusually rapid. In response to our usual request for particulars of his bee experience, Mr. Wilkins writes: "When I bought my first two skeps of bees in the year 1890 I had no idea whatever of becoming a bee-keeper on any large scale, but a cottager in the neighbouring village from whom the skeps were got, assured me that 'bees were the most profitable of all live

stock.' How far this has proved correct in my case may be gathered from the fact that in seven seasons I have, by following the policy of making the cash got for honey pay for all new hives and appliances required—now increased to sixty-seven stocks from two—and made some money besides from the sale of my bee-produce.

"The position and surrounding of my quiet little corner of the bee-world has been visited, and not a little admired I am proud to say, by some well known bee-keepers and experts at the business. So far, too, as the suitability of the place for a bee-garden, I am—as experience is gained—more than satisfied with the position and district. The hives face south, are well sheltered by the high north wall at the back, and have fruit trees growing in all directions, while the range of hills—about one and a half miles from Wantage—rise high above the town and make up a pleasing picture. On these hills grow abundant crops of sainfoin and other bee-flowers."



MR PERCY WILKINS' APIARY, WANTAGE, BERKS.

The photo from which the view is reproduced was taken last year, Mr. Wilkins being shown in the act of removing a rack of finished sections from a hive, on which were left three other racks, all of them being filled and sealed before the honey season of 1897 ended.

The apiary is worked almost entirely for comb-honey in sections, these being most in demand to meet the wants of London customers, who take sections from him in bulk for retailing. It speaks volumes for the quality of the sections sent out from this apiary when we are told that the best of these customers last year took no less than six gross. In view, therefore, of the present adverse honey season, and the fact that the "notes" sent us to furnish material for this notice were written some time ago, we were curious to know how he had got on "up to date." In reply he writes, a few days ago: "I have been busy this week, my London customer, who has had two gross of sections already, is worrying me for two gross more, so that will be a nice little job for the coming Bank Holiday." Can it be that "honey-dew" has not "fallen" at Wantage? We hope so, for it would indeed be a pity to have a regular trade interrupted by a visitation such as has damaged so many bee-keepers this year.

In concluding his interesting "notes" Mr. Wilkins further says: "I am proud to be, in one sense, a cottager bee-keeper, for in our present cottage I was born, and have lived ever since with my father and mother; not only so, but it was the home of my mother's parents also." The apiary, however, is quite half a mile away, consequently none but the appliances in actual everyday use are kept there. All honey, hives, and appliances are stored and dealt with in a house specially built for the purpose in the garden at home. It is

a substantial wooden structure 25 ft. long by 12 ft. wide. One-third of the whole is divided off as a honey room, the rest being devoted to appliances and material. "In my warm and snug little honey room," our friend adds, "many a winter evening passes pleasantly away as I am busily occupied in preparing racks of sections, wiring frames of foundation, and the various little 'wants,' so that everything may be ready for use in the coming season. Our honey flow is of such short duration that to be a day behind would be a loss of valuable time that cannot be regained."

In wishing continued prosperity to this Wantage apiary, we add a line to say, in Mr. Wilkins' concluding words, we have one of the secrets of success in bee-keeping, which we hope readers will take note of.

METEOROLOGICAL.

METEOROLOGICAL OBSERVATIONS TAKEN AT DUDDINGTON, STAMFORD, NORTHANTS, FOR THE WEEK ENDING JULY 30, 1898.

1898.	Bar. in.	Tem. 9am deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in.
July 24....	29·94	60·2	70	48	22	58·2	—
,, 25....	30·08	63·5	73	43	30	57·0	—
,, 26....	30·12	64·0	71	57	14	63·5	—
,, 27....	30·10	63·1	71	56	15	63·0	—
,, 28....	29·98	64·1	66	54	12	59·6	·34
,, 29....	30·00	53·8	58	51	7	54·3	—
,, 30....	30·10	55·1	65	43	22	53·2	—
Means	30·06	60·5	67·7	50·3	17·4	58·4	*·34

* Total.

For the week ending July 23 the mean temperature, viz., 60·8, was +0·4, and the rainfall, viz., 0·16 in., was −0·48 in. The rainfall, July 3 to July 23, viz., 0·16 in., is −1·58 in., and that Jan. 2 to July 23, viz., 8·93 in., is −3·74 in. Heavy rain occurred during the forenoon, and thunder, lightning, and heavy rain, at 4·15 p.m., on the 28th. The rainfall on this date, viz., 0·34 in.= 7691·82 gallons, or 34·34 tons to the area, or 1 lb. 11½ oz. to the square foot.

FRED. COVENTRY.

WEATHER REPORT.

WESTBOURNE, SUSSEX,
JULY, 1898.

Rainfall, ·45 in.
Heaviest fall, ·17 in., on 28th.
Rain fell on 5 days.
Below average, 2·44 in.
Maximum Temperature, 79°, on 16th.
Minimum Temperature, 40°, on 11th.
Minimum on Grass, 0.
Frosty Nights, 0.
Sunshine, 232·4 hrs.
Brightest day, 3rd, 15 hours.
Sunless Days, 1.
Above average, 18·7 hours.
Mean Maximum, 67.1
Mean Minimum 51·1°.
Mean Temperature, 59·2°.
Below average, ·6°.
Maximum Barometer, 30·46°, on 11th.
Minimum Barometer, 29·83°, on 23rd.

L. B. BIRKETT.

SELLING GRANULATED HONEY.

Selling extracted honey in the granulated state, according to my views, is the only real, practical way of selling such honey. If you sell it in the liquid state and it is not consumed soon, it will granulate, and in that case requires more explanation to convince your customer that he has not been defrauded through a spurious article than it does to tell him how he can liquify that in a granulated state. Then honey in the granulated state can be handled quite roughly without any leakage, while when in the liquid form there is nothing quite so easy as having everything all daubed with the stuff, for customers seem bound not to keep it "right side up with care."

But there is one way of marketing honey, which is the "selling by sample." In all of my building up a trade for honey I have found this the easiest. Go on every street in country, town, or city, and leave a sample of your product at every house, with the slip telling how to liquify it, or if comb honey, cut off a "chunk" according to the number in the family, and then go around with what you have for sale two or three days later, and the houses where you do not make a sale, especially if you are willing to exchange the honey for the product of others, will be few and far between. This sample causes the "mouth to water," and the "good wife" and children prevail along the "honey line."

Then there is another way of marketing, applying wholly to extracted honey. When the honey has so granulated that it will but just run, pour it into light basswood boxes, holding five, ten, twenty-five, or fifty pounds, the same having been prepared during the leisure winter months, and having the inside corners paraffined, when it is to be set away till candied hard. Now put paraffin paper over the top, on this the slip about liquifying, and nail on the covers.

Next, from some of the same honey, cut out chunks weighing about two ounces, putting the same in a block of wood, having a suitable hole bored in it, or in a little box of suitable size, and mail the same to different parties in different towns, in regions where honey is not produced to any extent, putting in the slip about liquifying and telling the price, &c., when you will find orders coming in from fields rarely canvassed for honey.

It is a good idea to mail such packages to postmasters, offering them wholesale figures on the honey, or offering a five or ten pound box at sample rates for introduction, and after once introduced, you will find a permanent market at such places. Such boxes of honey go at a low rate by freight, and as the honey is solid within there is little or no danger from breakage, even though the boxes be made of one-fourth inch stuff. Years ago I shipped considerable honey in boxes this way, and never

had a complaint from breakage.—G. M. DOOLITTLE, in *The Progressive Bee-Keeper (American)*.

HORSES STUNG BY BEES AT GEDLEY, NOTTS.

Being desirous that readers who intend contributing to this fund should kindly do so with as little delay as is possible, we print below the full list of subscriptions so far received or promised ; and if in the course of a few days there is as hopeful an addition to the list as we would like to see, it is our intention to communicate with those local gentlemen who are generously helping on so praiseworthy an object in order to ascertain what has been done on the spot, together with other particulars connected with the fund.—[EDS.] :—

COMPENSATION FUND.

Bee Journal and RECORD	£0	10	6
E. D. Till (Eynsford, Kent)	0	5	0
S. A. (Highgate, London)	0	5	0
"A Sussex Apiary"	0	2	6
H. W. B. (Norwood, Surrey).....	0	2	6
Wm. Herrod (Swanley, Kent)	0	2	6
S. Lawrence (Cheltenham).....	0	2	6
T. W. Jones (Etwall, Derby).....	0	2	6
F. Chapman (Wells, Somerset).....	0	2	6
R. Hamlyn-Harris (Bristol)	0	2	6
H. B., jun. (Norwood, Surrey)	0	1	0
John Bradley (Yockleton)	0	1	0
H. May (Tetsworth, Oxon)	0	1	0
W. Hard (Pulborough, Sussex).....	0	1	0
E. Wide (Devon).....	0	1	0
"Queen Bee" (London).....	0	1	0
C. D. C. (Surrey).....	0	1	0
E. Cook (Stourport)	0	1	0
A. Bonell (Stourport).....	0	1	0
O. Knight (Stonehouse, Glos.)	0	1	0
G. Fairs (Chichester)	0	1	0
G. Newman (Camberwell).....	0	1	0
W. Russell West (Northenden).....	0	1	0

Echoes from the Hives.

Swansea, July 30.—Seeing no "Echo" from this part of late I send you one. It is always gratifying to hear how bees in other counties are doing and to compare notes. The same weather conditions appear to have been very general ; cold and rain predominating up to near the end of June, and bees having to be fed when they should have stored a surplus. The last few days of June, and most of July, have, however, proved more favourable. It was very tiresome to see the hives in June brimming over with bees unable to get at bloom everywhere abundant, but yielding no nectar, because of the cold winds so prevalent. Those who, like myself, work single hives, will note how the bees have stored in the middle combs and neglected the outer ones, showing that warmth was the one thing necessary. The returns per hive this year are about one-half the ordinary weight, and the honey is of a darker colour than usual, although no honey-dew appears to have been collected in my apiary.

Stray swarms have been rather numerous here. I took a fine lot after ten o'clock the other evening in a neighbour's garden. I have heard of many other stray colonies about the suburbs. On the whole it has been a capricious season, and rather disappointing in results ; but if there is one lesson a bee-keeper needs to learn it is *nil desperandum*.—B. E. E.

Queries and Replies.

[2082.] *Bees Deposing Old Queens.*—About a month ago I found in one of my hives a single sealed queen-cell. There was no other but this one on any of the frames in hive. I removed the single queen-cell and made a nucleus colony with it, leaving the old queen behind in the hive. I also put in the latter full sheets of foundation in place of the frames of brood taken out, but on examining the same hive last Monday I found that the bees had drawn out another queen-cell from which a queen had hatched out. There was again no second queen-cell in hive that I could find. The queen, which looked rather downy, as I thought, was seen on one of the frames ; but what I should like to know is, whether the bees have killed the old queen in order to re-queen themselves, or have they swarmed ? There are a good lot of bees in the hive and not many drones, together with a lot of sealed brood, but I saw no eggs. The conclusion that I have arrived at is this : the bees would no doubt have raised a number of queens if they were going to swarm, but by my taking their first queen-cell away they must have built another with the same purpose and object. The parent queen was three years old ; that I can almost vouch for. 1. I should be glad if you could answer this, and also say (2) if the bees did not swarm, would they kill the old queen or the young one ?—J. W. B., *Slough*.

REPLY.—1. It seems fairly clear from details given that the bees had resolved to depose the old queen and replace her with a young one. 2. There is nothing to warrant the assumption that the bees have swarmed, and the natural conclusion is that the old queen would be eventually deposed and cast out of the hive.

[2083.] *Bees Stifled in Confinement.* — On the night of July 6, I fastened the entrances to three of my stocks with perforated zinc, to imprison the bees while some machine-mowing was being done near the hives next day ; but

at midday honey commenced to flow out at the entrance of one of the hives and the bees were then liberated. All the cappings were very sunken, no doubt from the bees being overcrowded and brood killed. It was thought at first that four only of the shallow combs in top super had given way, but on making a thorough inspection on the 9th, I found that five shallow combs in top super, eight or nine combs in next super, and two combs in brood chamber had broken away. The stock had been queenless since the 2nd inst. and the queen I had caged and introduced on the 6th was found dead in cage. The stifled bees and the honey at bottom of hive presented a very sorry spectacle indeed. I would not bother you with these details, but I wish you to kindly examine accompanying piece of comb (taken from the unfortunate stock on the 21st. inst.). There is something wrong with the brood. Is it asphyxiated or foul?—"BROWSER," *July* 26.

REPLY.—The concave cappings of comb are solely due to the bees and brood being asphyxiated. It was a fatal error to confine strong stocks in hot weather without providing ample ventilation above and below.

[2084.] *Transferring by Beginners.*—On Friday, July 22, I received a present of a swarm of Carniolan bees, which had been hived in a skep for about a fortnight, and in that time had gathered a considerable amount of honey, beside depositing brood in the new combs. All the combs, however, collapsed in transit, killing many of the bees. I have transferred the swarm to a frame-hive, putting in the collapsed comb in a lump on the left side, and three frames on the right. I threw away all the dead bees that were get-at able, but there are no doubt many more and also dead brood in the centre of the mass. I thought the bees would start work on the three frames, but they are in no hurry; they appear to have taken all the drowned bees out of the top piece of comb in the heap, and filled up with honey and re-capped. Now, what had I better do? I am not certain that the queen is alive. I have looked several times—how can I make certain? Should I take the heap of honey, &c., out of the hive, and let them work on the bar-frames only? I thought they would have transferred the collapsed comb and honey to the frames, but they did not. I have another hive of English bees doing splendidly for a beginner this year. If I can find no trace of a queen in the Carniolan hive, should I transfer some brood comb, with a queen-cell, if possible, from the English beehive to the Carniolan hive? Your full instructions will very much oblige. I should be glad if you will give me the address of the Middlesex Bee-keepers' Association.—W. W. J., *Stoke Newington*, *July* 27.

REPLY.—The heap of "collapsed combs" must be got out of hive as soon as possible; but so far as giving you in this column "full instructions" how to proceed, our first instruction must be to advise your procuring a "Guide Book" on bee management, and reading it carefully. Without this it is vain to hope for any other result than disaster. Nor can we possibly undertake to teach bee-keeping through our Query and Reply department, however willing we might be.

[2085.]—*Foul Brood and "Specialists."*—You will perhaps remember my visiting the "Royal" Show at Birmingham, on Thursday, and the talk we had *re* "Foul Brood," which I am sorry to say is ravaging our neighbourhood. I have myself destroyed no less than twenty-seven affected stocks since May 19. I saved the bees of two or three of the strongest lots, and starved them for two or three days, then got them into new hives, and after feeding on medicated syrup, they are going on all right now. On my way from the "Royal" to New-street station I met with a bee-keeper who began talking about bees, and foul brood was, of course, discussed. After we had said all we knew about it a gentleman near by (whom I afterwards learned was a specialist) asked me several questions about foul brood, which I answered as well as I could; he then asked if I would send him a piece of comb for examination, which I did, and the following is his report, which may perhaps be of some others who are in the same boat with me.—A. C., *Bourton-on-the-Water*, *July* 25.

REPLY. — 1. Whatever knowledge the "specialist" referred to may possess, it seems very evident—from the "report" quoted—that he knows nothing whatever of Bacillus Alvei, or foul brood. Surely you cannot have even copied the report *verb. et lit.* when writing thus:—"The organism that is at work on it is plainly, Bacterium Termo of Bacteria tribe. It is an organism of putryfraction"? 2. Perchloride of mercury will not do what you claim for it. Moreover, it is so deadly a poison that we advise you to be careful in using it for the purpose named.

[2086.] *Building up Stocks for Next Year. Time for Handling Bees.*—I have a stock of English bees which I artificially swarmed, as per "Guide Book," but as I could not find the queen I inserted a frame with brood and queen cells a fortnight after, which was taken from the stock, and now find that the swarm is headed by a good young queen and is going on splendidly. The old stock, however, after these three frames of brood have been taken from it, has now not a single trace of queen, brood, or eggs, and, as I expected from frequent searches, is queenless. I have ordered a queen which will not arrive for a fortnight. I therefore ask—1. Will I be able to build this stock up from August 1 for wintering well and yielding a good harvest next year, after having been queenless for about a month? 2. Do you think it is worth keeping a nucleus for emer-

gencies when one has only four hives? 3. How often, and how late in the afternoon, can bees be handled without fear of harm being done? I have been in the habit of examining mine after 7 p.m. (this month) about once a week; too often, I fear, but I am yet a novice in the craft. 4. My idea is that your paper is excellent, as far as it goes, but you want more illustrations and the paper enlarged, even if you have to double the price. However, I daresay you know best.—A. E. R., *Newcastle-on-Tyne, July* 15.

REPLY.—1. Yes, if carefully attended to. 2. Hardly so. 3. No harm will follow if weather is warm and brood not exposed to cold winds. 4. You are right—"we know best."

[2087.] *Removing Bees from Roof of Outhouse.*—A friend of mine is troubled with a colony of bees which took up their abode between the floor and the roof of an outhouse (stone-tiled) some three or four years ago. They are a very strong lot, and he is anxious to have them either driven out or destroyed. I shall be very grateful if you or some reader of the JOURNAL will advise me in the matter. I do not remember reading of a similar case during the four years I have taken in your valuable paper.—W. H. W., *Stroud.*

[We shall be glad if some reader who has had practical experience of dealing with stone-tiled roofs and removing bees from such will kindly help our correspondent in the way desired.—EDS.]

Bee Shows to Come.

August 8, at Church Gresley.—Honey Show in connection with the Floral and Musical Fête.

August 10, at Clutton, Bristol.—Somerset and South Glos. B.K.A. Annual Show in connection with Clutton Horticultural Society. Six open classes. Schedules from Miss H. Dawe, Long Ashton, near Bristol.

August 10, at Marlow, in connection with the Marlow Horticultural Society. (Under the auspices of the Berks Bee-keepers' Association.) Show of Hives and Appliances, Honey, Bees. Nine classes. Excellent prizes offered. Schedules from A. D. Cripps, Esq., Hon. Sec., High-street, Marlow. **Entries close August 6.**

August 11, at Victoria Pleasure Grounds, Goole. Honey Show in connection with the Agricultural Society. Six open classes, including one with 20s. and 10s. prizes for single 1-lb. jar extracted honey (entry free in this class). Schedules from J. Luddington and N. S. White, Secs., Lindum House, Goole. **Entries close August 6.** (See page 303.)

August 11, at Keele, Staffs.—Honey show, in connection with the Keele Agricultural and Horticultural, Dog, and Poultry Shows. Schedules from W. A. Benson, Secretary, Silverdale, Staffs.

August 13, at Dumfries.—In connection with "Band Contest," the South of Scotland B.K.A. will hold a honey show as above. **Two open classes for "Three's."** Schedules from Mr. J. Kerr, Hon. Sec., Douglas-terrace, Dumfries. **Entries close August 6.**

August 13, at Stoke Prior, near Bromsgrove.—Honey Exhibition in connection with the Stoke Prior Horticultural Society. Seven open classes. Three "Gift" classes of two 1-lb. sections of honey, two 1-lb. jars extracted honey, and single 1-lb. jar candied honey. Liberal prizes. Schedules, entry forms, &c., from Percy Leigh, "Beemount," Stoke Prior, near Bromsgrove, Worcestershire. **Entries close August 6.**

August 15 and 16, at Felling.—Northumberland and Durham B.K.A. honey exhibition, in connection with the Felling Flower Show. Schedules from T. Russell, 17, Stephenson-terrace, Felling. **Also at Gateshead, August 29 and 30.**—In connection with the flower show. Schedules from T. H. Armstrong, 111, Prince Consort-road, Gateshead. **Entries close August 20.**

August 17 and 18 at Dover.—In connection with the Dover Horticultural Society at Dover College Grounds. Additional open classes. Increased prizes and medals. Schedules from H. W. Brice, Hon. Sec. Kent and Sussex B.K.A., Dale Park, Upper Norwood, S.E. **Entries close August 6.**

August 17 and 18, at Blackpool.—Honey show in connection with the Blackpool and Fylde Horticultural Society, under the auspices of the L. & C. B.K.A. Schedules from C. E. Riding, Secretary, 9, Central Beach, Blackpool. **Entries close August 8.**

August 17 and 18, at Ince Hall, near Chester.—Open classes for six 1-lb. jars, three 1-lb. granulated, and single 1-lb. jar. Schedules from the flower show secretary, Ince, near Chester. **Entries close August 9.**

August 17 and 18, at Shrewsbury.—Shropshire B.K.A. Annual Show of Honey, "The Quarry," in connection with the Horticultural Fête. Schedules from Jno. Palmer, Hon. Exhibition Secretary, 17, Brand-lane, Ludlow. **Entries close August 10.** Fifteen open classes. (See Advt. on p. ii.)

August 18, at Biggar, N.B.—Biggar Bee-Keepers' Association. Annual Show of Bees, Honey, Hives, and Appliances. Sixty-six prizes in twenty-four classes. For schedules, apply to Wm. Ormiston, Secretary, Fernbank, Biggar. **Entries close August 11.**

August 18 and 19, at Harrogate.—Knaresboro and District B.K.A. Show of Honey, in connection with the Harrogate Horticultural Society. Schedules from C. B. Elmhirst, Secretary K. & D.B.K.A., Farnham, Knaresboro'.

August 19, at Exeter (Devon B.K.A.).—In connection with the Devon and Exeter Horticultural Society. **Open Classes,** with liberal prizes, for six sections, and for six 1-lb. jars extracted honey, also for best exhibit of honey not exceeding 28 lb. Nine classes for members only. Schedules from H. Tolson, Hon. Sec., Park House, St. Thomas, Devon. **Entries close August 6.**

August 24, in Neston Park, Wilts.—Honey exhibition in connection with the Atworth and District Horticultural Show. Seventeen classes with liberal prizes, including single 1-lb. jar and single section, with free entry. For particulars apply to J. P. Inkpen, Sec., Atworth, Melksham. **Entries close August 20.**

August 24, in the Town Gardens, Old Swindon.—Wilts B.K.A. County show in connection with the Horticultural Fête. **Four open classes.** Schedules from W. E. Burkitt, Hon. Sec., Buttermere Rectory, Hungerford. **Entries close August 14.**

August 27, at Windsor.—Windsor and District Branch, Berks B.K.A. Bee and Honey Exhibition, in connection with the Liberal Club Annual Flower Show. Schedules from J. Hyde, jun., Hon. Sec., 55, Bexley-street, Clewer. **Entries close August 18.**

August 31 and September 1, at Burslem, Staffs.—Annual Bee and Honey Show of the Staffs B.K.A., in connection with the Staffordshire Agricultural Society. Sixteen classes for bees, hives, honey, and appliances. **Four open classes,** including class with three prizes for 1-lb. section, 1-lb. jar, and 4 oz. beeswax. Schedules from Ellis E. Crisp, Sec. S.B.K.A., 8, Jesson-street, Coventry. **Entries close August 6.**

September 7 and 8. At the Cattle Market Derby.—Derbyshire B.K.A. Seventeenth Annual Exhibition of Bees, Honey, and Appliances, in conjunction with the Show of the Derbyshire Agricultural Society. Liberal prizes. **Eight open classes.** Schedules from F. Walker, Hon. Sec. D.B.K.A., 64, Gerard-street, Derby. **Entries close August 31.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

G. M. S. (Keswick).—*Judging Queens.*—Bee sent shows no visible trace of Carniolan blood. She is a fairly well-marked Ligurian queen, bearing every appearance of never having been mated. The body is, however, too dry and hard for any post-mortem examination. She also appears to have been "balled" to death by bees.

J. S., Junr. (Prescot).—*Immature Brood Cast Out.*—The usual reason for bees casting out undeveloped bees (workers and drones) is impending scarcity of stores and lack of honey income. Is this the condition of things in the hive? Because without inspection we can offer no other explanation to account for the trouble.

Alex. K. (Alexandria, N.B.).—Not being dealers in bee-appliances, we cannot "forward you our illustrated catalogue." Write to one or other of our advertisers, who will supply what you need.

S. S. (Dewsbury).—*Defective Queen.*—1. The queen sent seems right in other respects, but the ovaries are badly developed and quite account for her restricted laying-powers. 2. There will always be some variation in the time young queens begin to lay; So much depends on the weather, &c., at time they leave the hive for mating purposes. 3. It is not well to have bees located three miles away unless there is some one at hand to look to them in case of contingencies. This is especially necessary with regard to swarming.

T. M. (St. Neot, Liskeard).—*Expert's Certificates.*—Mr. Edwin H. Young, Sec. B.K.A., 12, Hanover-square, London, will supply all information regarding these if written to.

Cottager (Ascot).—*Varieties of Heather.*—1. We only omitted an illustration of *E. tetralix* in our notice on page 97 of last month's *Record* to save space. 2. You are quite correct in naming the varieties sent. We have, however, illustrated *E. tetralix* in August *Record* for reference and comparison with the others.

S. (Cheltenham).—*Bees and Cows. Covers for Tie-over Jars.*—1. It is so common to have hives of bees separated from pasture land by no more than a good wire fence, that it is safe to say that no harm will follow so long as the cows referred to cannot get at the hives. 2. Section sent contains a good portion of "honey-dew." 3. Honey of that class will not sell at all well while in liquid condition. 4. If vegetable parchment is used of double thickness, and the parchment "softened" in luke-warm water, and dried before using, the cover will keep tight and look well if properly done.

Bishop Auckland.—Insect sent is a wild bee of the genus *Megachile*, commonly known as the "leaf-cutter bee."

T. C. H. (Twickenham).—*Swarmed Stock not Working in Section.*—1. It is quite common for bees to cease storing honey in sections "after sending out a large swarm" as stated, but whether or not the parent hive is now queenless we cannot safely say. Why not examine the combs yourself—after removing the sections—and see if there is brood in the hive? This would at once decide the point. 2. Do not think of uniting till the combs have been inspected.

Veracity (co. Kilkenny).—The comb sent some time ago was unfortunately mislaid, but we have now found your letter on which is noted the fact that foul brood was present in the cells. 2. Before we can decide as to name of shrub, we should have a sprig of bloom sent with a few leaves attached.

Jas. S. (Aberdeenshire).—*Transferring Odd Sized Combs to Standard Frames.*—We think that four-year-old combs are hardly worth transferring to new standard frames. If the hive in which the combs now are will take frames of standard size, it will be far better to work out the change gradually, giving one full sheet of foundation at a time and feeding liberally while the process of renewing combs goes on. It will not be very easy to get bees to start comb-building rapidly at this late season, but plenty of good syrup will stimulate them in that direction.

E. C. B. (Somerset).—*Honey Samples.*—Apart from honey-dew, which your sample shows along with so many others, a large proportion of it has been gathered from the privet blossom, which yields a strong disagreeably flavoured honey with the unpleasant odour so characteristic of your sample.

D. D. B. (Hull).—*Suspected Combs.*—1. Yes, we quite endorse your views as to comb sent. 2. The affected skeps should be promptly burnt if the owner will allow it. No good will come of trying to cure, nor do we care to advise trying to save the bees in view of the other circumstances detailed. 3. You can only take the precaution of using preventives, and keeping a close watch on combs of hatching brood in the frame hives.

Young Beginner (East Grinstead).—*Bees Hanging Out.*—See reply to *B. T. J.* (Tewkesbury), on p. 290 of B.J. for July 21.

Editorial, Notices, &c.

PROGRESS IN BEE-KEEPING.

OUR CONTEMPORARIES "BEE CHAT" AND "THE SCOTTISH BEE-KEEPER."

The present admittedly adverse honey season does not appear to present a very favourable opportunity for referring to the progress we claim to have been made by the craft during the past twelve months; in fact, the following lines were intended to see the light a week or two ago, but for the drawback mentioned above. Having now, however, let us hope, got over the worst that can happen, and finding no perceptible signs of anything which proves that an appreciable spirit of despondency exists among our readers, we venture to say that, notwithstanding disappointments—amounting in some cases to serious loss in value of honey-crops and the partial failure of some honey shows—progress in bee-keeping as an industry has been marked in a degree that cannot be other than satisfactory to all concerned.

What would have happened if '98 had proved a good honey year we need not say, but it is well to note that in the early part of the season the orders for appliances were, according to the reports of dealers themselves, quite unprecedented in this country, and that had the demand continued, a sort of famine in bee-goods would have resulted. However, there came—along with a bitterly adverse month of June—so sudden a suspension of orders that any danger of "famine" was averted, and business quietened down with more rapidity than was quite pleasant, from the dealers' view of the case.

The season has also been as generally unfavourable to the agriculturist as to the bee-keeper; and, in consequence, important shows, beginning with the "Royal" at Birmingham in June, have suffered more or less in diminished receipts at the turnstiles, while bee-shows have, we fear, helped to drain the exchequers of county associations by sadly reduced entry fees and the non-staging of exhibits. It would thus seem abundantly clear that luck has gone dead against the industry generally, and when we add on to the "list" the crowning trouble of a year of dark honey (call it honey-dew, if need be), the like of which none can remember, it goes without saying that bee-keepers have experienced hard lines in this year of grace. But, notwithstanding the admitted misfortunes recounted above, we still hold to the spirit and letter of the head-line to this article and re-assert emphatically that the progress made in the craft during the past twelve months has been unmistakable.

As the recognised organ of the British Bee-keepers' Association, we may be said to represent the official side of the case, and thus possess exceptional means of acquiring information—besides voicing the opinions of a large body of readers—which enables us to write with some degree of confidence on the subject, and we say that, among other things, there is noticeable a distinct and growing increase in the amount of useful activity and practical work done by county bee-keepers' associations. Along with several entirely new associations recently established, we can name others—re-started, phœnix-like, from the ashes of those dead already, or from old and moribund ones—which are now full of active life and the promise of future prosperity. From the educational point of view, there has also been a gratifying advance of the most encouraging character, in that the applications to the parent body from County Associations for examiners of candidates for the third class certificate of the B.B.K.A. have this year been exceptionally numerous; while the class of persons presenting themselves has—by reason of the higher standard adopted—been a distinct advance, so far as position and education are concerned, compared with the humbler bee-keeper who "went in for his third class" a few years ago.

Another gratifying step forward is the establishment by the B.B.K.A. of a permanent apiary in Kent in connection with the Swanley Horticultural College, with a duly appointed and competent apiarist in charge of the same. By this means periodical examinations are held on a large scale—within easy reach of town—under favourable conditions and with the most satisfactory results.

Nor must we overlook an event briefly referred to in the proceedings at the meeting of the B.B.K.A. Council, reported on page 271 of our issue for July 14 last. We allude to the proposal

of the Managing Director to organise a honey competition, limited to master grocers, in the coming "Grocers' Exhibition" at the Agricultural Hall in October next. This event will, we hope, inaugurate a new interest in British honey among grocers, which cannot well fail to be advantageous to British bee-keeping.

Having, as above, briefly enumerated a few facts in support of the claim made at the outset of our remarks, we venture to go still further, and add a line to say that periodical bee-literature is making noticeable progress. Quietly, and without any of the sensational "booming" which just now distinguishes our most up-to-date newspapers and magazines, the BRITISH BEE JOURNAL, and its monthly offspring, the *Bee-keepers' Record*, are making distinct headway in circulation, which means popular favour. We name these papers first, because of "knowing whereof we speak." But during the present year there has been an unusual manifestation of progress in the bee-world in the form of two new publications. We have now a *Quarterly Review of Apicultural Progress*, published in London, and a *Fortnightly Journal Devoted to Apiculture*, issued in Scotland. These are subsidiary titles only; they are and will be known, the first as *Bee Chat*,* and the second as *The Scottish Bee-keeper*.† Bee-keepers have therefore no lack of choice in the variety or quantity of their bee-reading, with weekly, fortnightly, monthly, and quarterly journals to select from. For ourselves—and having grown grey in the service, we claim a sort of parental right to say a word on the subject—we welcome the new-comers in all sincerity. The field of periodical literature (bee literature included) is open to all; no one has any prescriptive right to more of its space than his own journals honourably fill; how many there is room for time alone will show. Having, then, conceded this much, we are not going to don the garb of critic with regard to our contemporaries: but we cannot withhold our satisfaction at the manner in which both journals are edited. Courteous in tone, and beyond reproach in substance, the respective editors are apparently quite conscious of the fact that successful bee-journalism is only possible when kept clear of personalities, and conducted—as between readers and themselves—in the spirit of gentlemen.

Each of the new-comers, too, has its special mission, and places the object aimed at well to the front. The Editor of *Bee Chat* says:—

"Our readers may be assured that, were it not for advertising our own business, our little ship could not possibly be launched. But this fact will but prove of the greater interest, for who is better able to hold the helm than he who is in daily and hourly practice, and is constantly aware of the varied requirements of hundreds of clients?"

The Editor of *The Scottish Bee-keeper* is equally plain and straightforward. He claims that "the honey industry in Scotland should have an organ of its own." And who, we ask, has a right to dispute that claim? We have none, and Scotland now has a bee-paper produced by a gentleman whom we take to be an ideal editor for a Scotch journal There is no mistaking *his* nationality. Intensely and devotedly a "Scotchman" first, he is a "Britisher" afterwards. In fact—although by no means cosmopolitan ourselves—Mr. Cassells will, we know, forgive us for saying that we rather fear he is not so much inclined to get "beyond the Tweed" in a southerly direction as might be desirable in the interests of his paper. We should be as sorry to think, or suppose, that *The Scottish Bee-keeper* would not be welcomed among English readers as we believe our journals are among Scotchmen; and it were surely better, when "mapping out" the widest possible sphere of usefulness for our labour, to choose a wide field in which to work instead of a narrow one?

But we must stop, or we shall become critics after all. We therefore conclude by again saying that for such bee journals as those referred to we have none but the heartiest of good wishes. They add one more item to the signs of progress.

* "Bee Chat: a Quarterly Review of Apicultural Progress." Edited by S. Simmins, Heathfield, Sussex. London: Woodford, Fawcett, & Co., 112, Fleet-street.

† "The Scottish Bee-keeper: a Fortnightly Journal Devoted to Apiculture." Edited by John Cassells, L.A. Offices: Cadzow Buildings, Cadzow-st., Hamilton, N.B.

HONEY SHOW AT BLACKBURN.

The Royal Lancashire Agricultural Society's annual show was held at Blackburn on July 14 to 16, and from the agricultural point of view was a decided success; but so far as the

honey section of the show was concerned, the adverse season had the usual effect both on the number of exhibits and the quality of the produce staged.

It was a matter of regret, in view of the large number of visitors, that the bee tent of the Lancs and Cheshire B.K.A. did not occupy its usual place on the show ground. When an important agricultural society like the Royal Lancashire gives so much of encouragement to bee-keeping in the county as to offer good money prizes and its silver medal for competition, besides affording adequate and ample space for the bee-exhibits, it is a pity that their efforts are spoiled when a season of honey failure in the county prevents anything like due appreciation of the facilities given.

It is understood that the R.L.A.S. will hold its annual show next year in Liverpool, and as that city is the original home and was for long the headquarters of the Lancs. and Cheshire B.K.A., it is confidently hoped that the members of the county association will avail themselves of the opportunity for making the honey show of 1899 worthy of the occasion, as representing the bee industry of the County.

Mr. Fredk. L. Taylor, of Fallowfield, Manchester, judged the honey exhibits, and made the following awards :—

Honey Trophy (not less than 50lb.).—The first prize went to H. W. Morris, Doncaster, who was the only exhibitor in the class.

Most Interesting and Instructive Exhibit.—1st, H. W. Morris ; 2nd, P. Scattergood, jun., Stapleford.

Twelve 1-lb. Sections (open class).—1st, W. Woodley, Beedon, Newbury ; 2nd, A. Twinn, Ridgwell, Essex ; 3rd, E. E. Murray.

Twelve 1-lb. Jars Extracted Honey (open class).—1st, A. Twinn ; 2nd, Jabez Sopp, Wallingford, Berks ; 3rd, W. Woodley ; v.h.c., W. Loveday, Harlow, Essex.

Twelve 1-lb. Sections (county only).—1st and 2nd not awarded ; 3rd, R. Wharton, Freckleton.

Twelve 1-lb. Jars Extracted Honey (county only).—1st, R. Wharton ; 2nd, Miss E. Wilson, Grange-over-Sands.—(*Communicated*).

LEICESTERSHIRE B.K.A.

The sixteenth annual exhibition of bees, honey, and appliances was held in the show grounds of the Leicestershire Agricultural Society, Victoria Park, Leicester, on July 27 and 28. The entries were not so numerous as in previous years, but the show, on the whole, was very creditable, considering the poor season for honey in the county.

Mr. A. G. Pugh, Beeston, Notts, and Mr. H. M. Riley, Leicester, delivered short lectures in the bee-tent, and also officiated as judges, the following being their awards :—

Observatory Hives.—1st, Geoffrey Joyce, Blackfordby ; 2nd, Thos. Richards.

Three Shallow Frames of Comb Honey.—1st, J. Waterfield, Kibworth ; 2nd W. C. Lowe, Rothley Plain.

Twenty-four 1-lb. Jars Extracted Honey.—1st, J. Cooper, Leicester ; 2nd, A. W. Garner, Waltham ; 3rd, W. P. Meadows, Syston.

Twelve 1-lb. Sections.—1st, F. Pickersgill, Withcote ; 2nd, W. C. Lowe ; 3rd, J. Waterfield.

Twelve 1-lb. Jars Extracted Honey.—1st, Miss S. J. Cooper, Leicester ; 2nd, W. P. Meadows ; 3rd, J. Waterfield.

Display of Honey.—1st, Miss S. J. Cooper ; 2nd, W. P. Meadows ; 3rd, Mrs. A. W. Garner, Waltham.

Six 1-lb. Jars Extracted Honey (novices only).—1st, Mrs. W. Parkinson, Groby ; 2nd, C. Pridmore, South Wigston.

Six 1-lb. Sections (novices).—No 1st ; 2nd, C. Pridmore.

A similar exhibition was also held in connection with the Abbey Park Flower Show, Leicester, on August 1 and 2.

During the day lectures were given in the Association's bee-tent by Mr. H. M. Riley, Leicester, and Mr. R. Brown, Somersham. The latter gentleman also filled the office of judge, and made the following awards :—

Observatory Hive.—1st, Thomas Richards, Church Gresley ; 2nd, W. C. Lowe, Rothley Plain.

Twelve 1-lb. Sections.—1st, F. Pickersgill, Withcote ; 2nd, W. C. Lowe.

Twelve 1-lb. Jars Extracted Honey.—1st, J. Waterfield, Kibworth ; 2nd, Miss Cooper, Leicester ; 3rd, W. Parkinson, Groby ; 4th, Mrs. Parkinson.

Display of Honey.—1st, S. J. Cooper, Leicester ; 2nd, Miss Throsby, Leicester ; 3rd, Mrs. A. W. Garner, Waltham.

Twelve 1-lb. Jars Granulated Honey.—1st, J. Waterfield ; 2nd, F. Pickersgill.

Six 1-lb. Jars Extracted Honey (novices).—No 1st ; 2nd, E. Spray, Melton.

Six 1-lb. Sections (novices).—No 1st ; 2nd, S. Spray, Melton.

Single 1-lb. Jar Extracted Honey.—1st, J. Waterfield.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

EFFECTS OF BEE STINGS.

A PHYSICIAN'S ANTIDOTE.

[3344.] Your correspondent, "F. C. (Derby)," asks in B.J. of July 28 (p. 294) whether some of your medical readers will advise a course of treatment for bee stings. I have much pleasure in answering his communication. The un-

pleasant results from the sting of a bee are due to formic acid. An antidote must therefore be sought for in the application of an alkali. The sting is left in the flesh with the poison-bag attached ; don't remove it with finger and thumb, as by so doing you squeeze the bag and empty the rest of the poison into the puncture ; but take a penknife and *scrape the sting out* close to the skin, after which *immediately* apply the following mixture : Scrubb's ammonia, hazeline, and soft-soap, in equal parts.

Needless to say that the bottle should be kept handy when manipulating bees, as, unless the antidote is applied *at once*, it will be of little use, the poison being absorbed so rapidly.

I am sending you herewith a bottle of the preparation named in my letter. It should be kept well corked. Possibly you might like to try it or send some to "F. C. (Derby)"? If it is as successful with others as it has been with me, I shall be happy to give the readers of your JOURNAL detailed instructions as to its manufacture.—R. K., *Spalding, August* 1.

HONEY-DEW.

[3345.] The experience of "C. C. J." (3334, p. 292), as recorded in B.B.J. for July 28, is, I think, more or less general among bee-keepers all over the country this season. Fortunately I have not a large take of honey-dew ; if I had, I should extract and store it in tins to be used as bee-food when required instead of sugar. I have never known of bad results occurring through bees being wintered on honey-dew, nor have I ever known honey-dew to ferment, but I have not made any definite experiments with it. Honey containing more or less of honey-dew has also been consumed in my household without experiencing any discomfort, so I think there can be nothing unwholesome about it ; though it certainly is not nearly so nice as pure honey. As your correspondent "C. C. J." mentions aphides, I suppose that he alone, with many others, is under the impression that honey-dew is connected with aphides in a way not agreeable to think of. But they are altogether wrong. Honey-dew either forms upon, or exudes from, the leaves of trees and plants under certain conditions of weather, and if the trees from which our bees are gathering honey-dew are examined, few of them will be found infested with aphides.—W. LOVEDAY, *Harlow, Essex, August* 1.

SWARMING VAGARIES.

MORE EXPERIENCES.

[3346.] I hoped I had had my last experiences of this for the present season, but I reckoned without my host. Evidently bees like a practical joke. I had a straw skep, the bees of which I drove, placing the queen and part of the bees in a frame-hive, about the end of June. So far so good. Then I dethroned the old queen, and gave them a young fertile one. They placed her on the throne. I chuckled with the thought that they would not swarm this season. I was mistaken. To-day, August 1, they swarmed ; they had plenty of room, neither bedroom nor attic were fully furnished. Why, then, did they not complete their supers ? This is not the first case I have heard of. Skeps that swarmed in May have swarmed again lately, anticipating next season, I suppose. Seriously though, a swarming season that begins in May and continues into August is beyond a joke. Clover in this district is still in grand condition ; the scent wafted from some large fields near me would cause south country bee-keepers, I fear, to break the tenth commandment.—ALPHA, *Hull, August* 3.

VAGARIES OF BEES.

[3347.] On August 1 (Bank Holiday) an unusual occurrence took place in the village of Henbury. A gentleman well known in the place had an aviary in his grounds containing, amongst other birds, some golden pheasants and a pair of jays. For some unaccountable reason, these birds were suddenly attacked by numbers of bees and literally stung to death ! Their bodies were covered with stings, over forty being extracted by myself from one of the jays. A fine cock pheasant lived for several hours after being stung, and then died ! What seems more remarkable is that the aviary is situated in a secluded spot on the ground, and covered with wire netting of very fine mesh. The smaller occupants of the aviary—notably some goldfinches—evidently took shelter under some foliage, as they do not appear to have suffered in the slightest degree. I ought to explain, however, that on the morning in question some surplus-honey was taken from a hive about thirty yards from the aviary, but the bee-keeper who removed the honey is one who has had great experience, and he informed me that the bees appeared on that occasion exceptionally quiet.—C. A. NEWMAN, *August* 4.

[One cannot avoid connecting the removal of the honey with the mischief which followed, and we will be glad to know if a "super-clearer" was used on the occasion, or if anything else occurred so far as taking off or exposing honey in the open is concerned.—EDS]

(*Correspondence continued on page* 316.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

The quiet apiary shown on the opposite page, nestling, as it apparently does, under the shelter of a genuine stretch of Scottish "hill and moorland," carries us so far away northward as Banffshire. Its owner is an esteemed contributor to our journals, whose "Northern

Notes," by "D. M. M.," will be familiar to many. Mr. Macdonald, in response to our request, sends us so interesting an account of himself as a bee-keeper and his surroundings in general that to add to or take from it would spoil it; we therefore let our friend speak for himself. He says:—

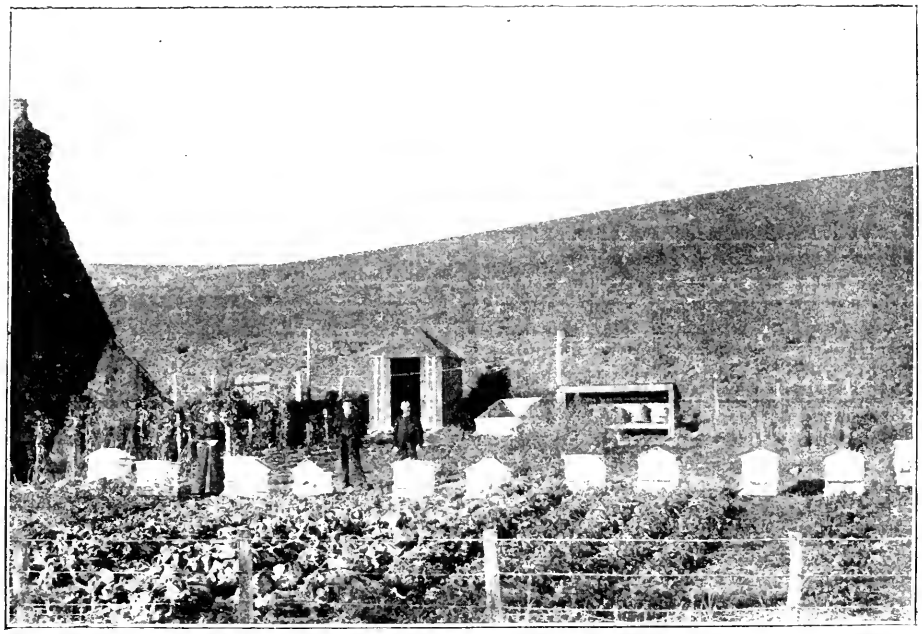
"My unpretending little apiary is situated about 700 ft. above sea level in a cold and rather bare glen—the famous Glenlivet, where 'the finest whisky in the world' is manufactured. I think the honey must partake of the good qualities of the whisky, for one who is an excellent judge characterised it as the 'finest I ever either saw or tasted.' Another for ten years has sent repeat orders for 'twenty sections of your excellent honey,' while a first-class expert of the B.K.A. described it lately as 'simply perfection.' As the words are not mine and the praise is due to the bees and the bee-pasture, my modesty permits me to repeat them.

"Right in front and stretching to fully twenty miles without a break, lie a series of heath-clad hills rising swell on swell until (but far to the right) they culminate in some of Scotia's giant Bens. What a feast there is here in this 'waste' of heather for the busy bee, on an ideal autumn day, only a bee-man can appreciate. Rising behind, what looks in the picture like some of these hills, we have some thousand acres of rich well-farmed arable land rising in steep or gentle slopes from the little valley in which I am located up to another series of lower hills. The grass fields on these farms form a rich and abundant supply of white clover. These two are my only sources of supply. Pollen-bearing plants are scarce in early spring, so my bees are always late in starting breeding; what swarms I have rarely come off before July, and I never think of supering before about June 20. How would your 'calendar of operations' suit our climes?

"I have been a diligent reader of all bee books, and have taken the BRITISH BEE JOURNAL and *B.K. Record* since 1890. They are indispensable to any real bee-keeper.

"I owe a good deal of my success to English swarms and queens, having proved up to the hilt—at least to my own satisfaction—that they are the 'bees to pay.' It is within the mark to say that year after year they have given me double the surplus the home product has supplied. All my frame-hives but one have now southern queens. The whole of the hives seen but the second one on the left are my own make, and are on the 'W.B.C." plan, with outer cases and loose inner body-boxes. These boxes with the frames are all machine made, and have been taken home in the flat. Frames have metal ends and metal runners. I still retain some specimens of the old skep, but have recently reduced the number from about a dozen to two.

"Cold as our climate is, I give no packing



MR. D. M. MACDONALD'S APIARY, BALLINDALLOCH, N.B.

between walls of hive, but pile on an abundant supply overhead. I believe in new combs and use foundation liberally, both above and below. Working for comb-honey and trusting mainly to the heather harvest, I never stimulate, but I believe in putting hives into winter quarters with a superabundance of natural stores.

"In most years I have set two or three hives aside for experiment, but having now attained most of the desired information, there will be little of this in the future. I have always had fairly good averages, and my best hives have frequently approached 100 lb. surplus. Last year my best gave me 139 lb., and I have thought of querying in your columns if that is not about the best record in sections in the north. I never had any difficulty in disposing of my surplus. It generally gets cleared off before the end of October, at a good price, though yearly prices show a downward tendency."

CORRESPONDENCE.

(*Continued from page* 314.)

SHOWS AND SHOWING.

PACKING AND RETURNING EXHIBITS.

[3348.] With regard to our friend Woodley's remarks in your monthly, the *Bee-Keepers' Record* for August, *re* exhibits being charged double carriage for return journey, &c., will you allow me, for the benefit of honey-exhibitors generally to say that my brother and myself, though frequently exhibiting at honey shows, have never had any difficulty in this direction. Like most of those who stage their best samples we always have our exhibits returned for sending to other shows, and in this way we have received back some scores of returned exhibits, but have never paid more for return than for sending. The only thing that is necessary to secure this is to sign a "risk note" with the railway company, the charges are then the same both ways.

Also as to packages and packing, those who send honey to shows should take care that exhibits are in separate boxes, and all comb-honey in proper travelling boxes. The bad packing for return is generally the fault of the sender, and not of the show secretary, or his assistants.

I think most of us who regularly assist at shows understand the handling and packing of honey fairly well, but when you have to pack many dozens—perhaps scores—of exhibits in a given time, and find you have to use all sorts, shapes, and conditions of boxes and material for the purpose, while it is a common thing to have to put two or three exhibits in one box, packed with hay, straw, newspapers, &c., then I say it becomes utterly impossible to bestow the time on packing that is required to ensure safe travelling.

Strange to say, some of our most experienced bee-keepers and exhibitors are the worst offenders in this direction. What looks neater, or is easier to pack and unpack than the simple box for glass jars, or the spring crate for sections shown in the "Guide-Book"? The lid is hinged, and there is a nice fastener, doing away with the nuisance of having to hunt for screws, nails, half of box-lids, string, packing, &c. Both the appliances mentioned are inexpensive, while any one able to handle a few joiners' tools can make them during the winter evenings, ready for the summer; and in this way would save the temper of a great many people, striving to do their very best under trying circumstances.. There would also be far less unpleasant words and uncomplimentary remarks uttered at the close of our shows, while exhibitors would receive their goods back from the show in as good condition as when sent to it.

Personally, and as one actively engaged on such work as is referred to, I shall welcome the time when it may be decided to make a rule of showing that "No exhibit will be staged unless sent in a proper travelling box."—W. HERROD, Expert and Apiarist, B.B.K.A., *Swanley, August* 6.

BEES AND HORSES.

[3349] Readers will thank your correspondent—E. Wide, Devon (p. 293)—for giving them the benefit of his plan of dealing with bees and horses under the circumstances to which he refers, but my experience is that bees have no greater objection to horses than to any other creature. When a horse has to go near bees in summer, it is most often at work, and is consequently perspiring more or less, and nothing seems more annoying to the sensitive nostrils of the bee than the odour of perspiration. The application of a carbolic solution, however, cannot be relied upon as a preventive of bee stings. A few timid bees would be kept off by it; but if a bee is irritated and intends stinging, it does not first examine the annoyer, but goes straight for it.—W. LOVEDAY, *Hatfield Heath, August* 4.

HORSES STUNG TO DEATH

AT GEDLEY, NOTTS.

[3350.] If last week's JOURNAL gives any indication of the measure of response to your appeal for the Gedley disaster I am afraid it will not be worthy of the annals of our craft, which has so often risen to the occasion when there has been need. Such a calamity, fortunately for us bee-keepers, is of very rare occurrence and one felt constrained to contribute out of mere thankfulness, for every bee-keeper is liable to a similar risk. Tell your friends if it is only a "postage stamp" let it come on! What will "Notts" think of us, if we only get enough to buy a decent donkey? Do we really understand that two HORSES are dead?—E. D. TILL, *Eynsford, August* 8.

[We quite share our esteemed correspon

dent's wish to see a respectable sum subscribed by our readers in aid of the fund referred to. Nor can we wonder at one so ready to help all that is worth helping as Mr. Till feeling strongly that the craft should support an appeal so directly touching themselves as this does; but bee-keepers are not as a rule wealthy folks and we are not quite discouraged at the result of the effort so far. And in regard to his mention of "what Notts will think of us?" we are glad that this week's list shows some "Notts" names. The letter below is from the Hon. Sec. of the N.B.K.A. In any case, however, the cause is a good one and we hope next week's issue will show an extended list.—EDS.]

[3351.] Enclosed I beg to hand you 11s. to above fund. May I ask you to state in the BEE JOURNAL and *Record* that the general wish expressed to me is that all those of our members who wish to subscribe to the fund should do so through your list, but if they prefer to hand it to me they may do so, and I will forward it on?—GEO. HAYES, *Hon. Sec., Notts. B.K.A., Beeston, August* 8.

HORSES STUNG BY BEES AT GEDLEY NOTTS.

COMPENSATION FUND.

The full list is again printed below with such additions as have been made since our last:

	£	s.	d.
BEE JOURNAL and *Record*	0	10	6
George Roberts (Broadgreen)	0	10	0
H. de Vere Hunt (co. Galway)	0	10	0
E. D. Till (Eynsford, Kent)	0	5	0
S. A. (Highgate, London)	0	5	0
J. T. Faulconbridge (Notts)	0	5	0
A. G. Pugh (Notts)	0	2	6
Geo. Hayes „	0	2	6
J. Cotterill (Bowdon).....	0	2	6
Miss Rice „	0	2	6
Mr. McLeod „	0	2	6
"A Sussex Apiary"	0	2	6
H. W. B. (Norwood, Surrey).....	0	2	6
Wm. Herrod (Swanley, Kent)	0	2	6
S. Lawrence (Cheltenham).....	0	2	6
T. W. Jones (Etwall, Derby).....	0	2	6
F. Chapman (Wells, Somerset).....	0	2	6
R. Hamlyn-Harris (Bristol)	0	2	6
Geo. Wells (Kent)	0	2	0
H. B., jun. (Norwood, Surrey)	0	1	0
John Bradley (Yockleton)	0	1	0
H. May (Tetsworth, Oxon)	0	1	0
W. Hard (Pulborough, Sussex).....	0	1	0
E. Wide (Devon).....	0	1	0
"Queen Bee" (London).....	0	1	0
C. D. C. (Surrey).....	0	1	0
E. Cook (Stourport)	0	1	0
A. Bonell „	0	1	0
O. Knight (Stonehouse, Glos.)	0	1	0
G. Fairs (Chichester)	0	1	0
G. Newman (Camberwell).....	0	1	0
W. Russell West (Northenden).....	0	1	0
J. Gray (Notts)	0	1	0
A. C. Jemeison (York)	0	1	0
T. W. M. (Worthing).....	0	1	0

Echoes from the Hives.

Honey Cott, Weston, Leamington, August 6.—We have about come to the end of our honey season here. The quality of the crop has been very varied, for, while we have got a little nice coloured honey, there is also a lot of dark stuff, but not so bad I think as it has been elsewhere, according to what several bee friends that have seen mine tell me after having compared it with their own in imagination. However, according to prospects in May and June, we may be thankful that the price of sugar will not be so likely to trouble us, as Dr. C. C. Miller said in *Gleanings*, when things looked rather gloomy. He said he "was getting interested in the price of sugar." There is no fear, however, of my interest lying that way, as the hives are crammed with honey. Yes! The bees did not object to it or why, even if it was dark, such haste and energy displayed to lug it home?

I shall be glad to know if friend Allen Sharp has found the bees take to foundation this season in sections in preference to those with worked-out comb. My bees preferred the latter and filled them, leaving some with only foundation severely alone. — JOHN WALTON.

East Sussex, August 6.—Contrary to statements by writers in August *Record* that the honey season of '98 is over, my bees are storing and sealing since about three weeks ago more than during the whole summer previously. All bee forage crops seem late this year; and the bees here are getting the only honey collected this summer from beans, second crop clover (white, &c.), and perhaps blackberry blossom, so bee-work is in full swing.

Whether any of it is honey-dew I cannot yet say, as I never take any honey until sealed over and leave it on as long as possible after; but I sincerely hope not. The crop, however, will be extremely small, even if fairly good, not a quarter the usual weight.—W. R. N.

Heathfield Station, Sussex, August 8.—We here in the south have to come in with the rest and report a very disappointing honey harvest. We had a cold and backward spring lasting well into June, followed by a long spell of real summer; but, alas! instead of the supers filling with our usual amber-coloured honey we have got a good deal of very dark stuff, though, happily, not quite *all* of that sort. Altogether we have only half a crop. Honey should fetch a good price this year, we are making 2d. a section more for good samples than last season. Swarms have been too plentiful, several have flown away.—H. N.

Pontypridd, August 1.—Unfortunately I must join in the wail concerning the prevalence of honey-dew. On a former occasion, some six or seven years ago, honey-dew rendered my honey uneatable. It is not, however, so bad as that this time, because its

presence in the honey will only serve to render the latter two or three shades darker than ordinary, and a trifle less nice. A brother bee-keeper whose apiary is about three miles from here is as fortunate. The stuff which he has extracted from some of his top supers is villainous. The quantity of honey taken this year is not far below the average.—J. M.

Five Miles North of Gretna Green, Dumfriesshire, August 5.—The honey gathered in our district is very dark this year, the leaves of lime trees quite shining with it. In some cases the rose-tree leaves are also affected. Many hives have an extra quantity of drones, which have for a month past been tormented by the workers, and at the same time some drones in the same hive are fed by the bees. Honey, such as it is, seems plentiful; but I will write more by and by.—BEE-KEEPER.

Queries and Replies.

[2088.] *Honey-dew in France.*—My bees are and have been collecting enormous quantities of honey-dew or *mielat*, as it is called in France. In extracting honey from frames I remarked a difference in colour from that ordinarily collected by my bees and of a very disagreeable, cloying, sweet taste. Would you advise me to use it for the table, or would it be better to give it back to the bees? It is very dark in colour. I have no bee-keeping neighbours, and do not, therefore, know their experiences, but in my French bee journal I see that I am not the only one harvesting honey-dew instead of the real thing.—B. M., *près Bayonne, Basses Pyrenees, France, August 3.*

REPLY.—We cannot do more than refer our correspondent to what appeared on page 301 last week on the subject of honey-dew.

[2089.] *Bees Clustering Outside Skep.*—1. Could you tell me why my bees are clustering all round the outside of a skep from which I had a swarm issue on May 26? I now have the swarm in a frame-hive, but the bees of the parent skep have been hanging out now about ten days. 2. Is it a sign the combs are filled with honey? and, if so, would it be safe to drive the bees from skep and put into a frame-hive?—YOUNG BEGINNER, *Sussex.*

REPLY.—1. The "hanging out" is a usual sign that the hot weather is incommoding the bees; nothing beyond that. 2. The parent stock is, apparently, in such good condition now that we advise its being wintered in the skep and allowed to swarm next year.

[2090.] *Swarms Refusing to Work in Sections.*—In May last I bought a strong swarm, and gave it eight frames, also a rack of sections; but the bees won't go near the sections, though all the eight frames seem full. 1. Thinking it wise to have them strong for next year, since they refuse to fill sections, I gave them two more frames. Is this wrong, or am I right? 2. I suppose you could not give me address of any one who would give me advice, and lives near here (Aldershot), as my bees are most recalcitrant!—G. S. P., *Aldershot, August 5.*

REPLY.—1. The refusal of a swarm to work in sections is not at all unusual—in fact, with so much of adverse weather since the bees were hived in May last, it is quite natural for the bees to devote all their time to furnishing and storing their new home. They will do differently next year if all goes on well. 2. If any reader can help our correspondent in the way indicated we will gladly send address.

[2091.] *Will Comb-Honey Keep?*—I have a great many sections this year that weigh just over 1 lb., but round the edges there are a few cells uncapped. 1. Will such sections keep any length of time? 2. What temperature is best to keep comb-honey at? 3. Is the sample of honey sent of fair quality? 4. Is it best to remove sections a few at a time, as finished, or wait till the whole rack is completed? 5. I have taken eighty-four good sections from one hive this year, and honey is still coming in fast. Is that good?—F. W. L.

REPLY.—1. Excepting that the unsealed honey is liable to run over the sealed surface and so tend to spoil the appearance, they would practically keep as well as fully sealed ones. 2. About 65 to 70 Fahr.; but a warm cupboard answers well. 3. Very fair indeed. 4. If not wanted we prefer removing in full racks. 5. We wish all readers could boast equally "good" returns.

METEOROLOGICAL.

OBSERVATIONS TAKEN AT DUDDINGTON, STAMFORD, NORTHANTS, FOR THE WEEK ENDING AUG. 6, 1898.

1898.	Bar. in.	Tem. 9 am deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in.
July 21....	30·18	64·0	76	43	33	58·3	—
Aug. 1....	30·09	67·0	76	53	23	63·8	—
,, 2....	30·00	66·0	78	50	28	63·2	—
,, 3....	29·86	67·2	74	57	17	65·0	·02
,, 4....	29·92	61·5	69	46	23	56·8	·14
,, 5....	29·88	58·0	75	54	21	63·9	·01
,, 6....	29·81	60·8	68	58	10	62·7	1·22
Means	29·96	63·5	73·7	51·6	22·1	62·0	1·39*

* Total.

The week's rainfall, viz., 1·39 in. = 31,145·97 gallons, or 140·39 tons to the acre, or 6·95 lb. to the square foot; and the rainfall on the 6th, viz., 1·22 in. = 27,600·06 gallons, or 123·22 tons to the acre, or 6·1 lb. to the square foot. For the week ending July 30, the rainfall, viz., 0·34 in., was −0·33 in., and the mean temperature, viz., 58·4 deg., was −3·0 deg. The rainfall, July 3 to July 30, viz., 0·50 in., is −1·91 in.; and that, January 2 to July 30, viz., 9·27 in., is −4·07 in. In July, rain fell on five days to the amount of 0·91 in.; greatest fall in twenty-four hours, 0·41 in., on the 1st. Total fall in the year, 9·32 in.

FRED. COVENTRY.

Bee Shows to Come.

August 11, at Victoria Pleasure Grounds, Goole. Honey Show in connection with the Agricultural Society.

August 11, at Keele, Staffs.—Honey show, in connection with the Keele Agricultural and Horticultural, Dog, and Poultry Shows.

August 13, at Dumfries.—In connection with "Band Contest," the South of Scotland B.K.A. will hold a honey show as above. **Two open classes for "Three's."**

August 13, at Stoke Prior, near Bromsgrove.—Honey Exhibition in connection with the Stoke Prior Horticultural Society.

August 15 and 16, at Felling.—Northumberland and Durham B.K.A. honey exhibition, in connection with the Felling Flower Show. **Also at Gateshead, August 29 and 30.**—In connection with the flower show. Schedules from T. H. Armstrong, 111, Prince Consort-road, Gateshead. **Entries for Gateshead close August 20.**

August 17 and 18 at Dover.—In connection with the Dover Horticultural Society at Dover College Grounds. Additional open classes. Increased prizes and medals. Schedules from H. W. Brice, Hon. Sec. Kent and Sussex B.K.A., Dale Park, Upper Norwood, S.E. **Entries close August 13.**

August 17 and 18, at Blackpool.—Honey show in connection with the Blackpool and Fylde Horticultural Society, under the auspices of the L. & C. B.K.A.

August 17 and 18, at Ince Hall, near Chester.—Open classes for six 1-lb. jars, three 1-lb. granulated, and single 1-lb. jar.

August 17 and 18, at Shrewsbury.—Shropshire B.K.A. Annual Show of Honey, "The Quarry," in connection with the Horticultural Fête.

August 18, at Biggar, N.B.—Biggar Bee-Keepers' Association. Annual Show of Bees, Honey, Hives, and Appliances. Sixty-six prizes in twenty-four classes.

August 18 and 19, at Harrogate.—Knaresboro and District B.K.A. Show of Honey, in connection with the Harrogate Horticultural Society. Schedules from C. B. Elmhirst, Secretary K. & D.B.K.A., Farnham, Knaresboro'.

August 19, at Exeter (Devon B.K.A.).—In connection with the Devon and Exeter Horticultural Society. **Open Classes**, with liberal prizes, for six sections, and for six 1-lb. jars extracted honey, also for best exhibit of honey not exceeding 28 lb. Nine classes for members only.

August 24, in Neston Park, Wilts.—Honey exhibition in connection with the Atworth and District Horticultural Show. Seventeen classes with liberal prizes, including single 1-lb. jar and single section, with free entry. For particulars apply to J. P. Inkpen, Sec., Atworth, Melksham. **Entries close August 20.**

August 24, in the Town Gardens, Old Swindon.—Wilts B.K.A. County show in connection with the Horticultural Fete. **Four open classes.** Schedules from W. E. Burkitt, Hon. Sec., Buttermere Rectory, Hungerford. **Entries close August 18.**

August 27, at Windsor.—Windsor and District Branch, Berks B.K.A. Bee and Honey Exhibition, in connection with the Liberal Club Annual Flower Show. Schedules from J. Hyde, jun., Hon. Sec., 55, Bexley-street, Clewer. **Entries close August 18.**

August 31 and September 1, at Burslem, Staffs.—Annual Bee and Honey Show of the Staffs. B.K.A., in connection with the Staffordshire Agricultural Society. Sixteen classes for bees, hives, honey, and appliances **Four open classes,** including class with three prizes for 1-lb. section, 1-lb. jar, and 4 oz. beeswax.

September 7 and 8. At the Cattle Market Derby.—Derbyshire B.K.A. Seventeenth Annual Exhibition of Bees, Honey, and Appliances, in conjunction with the Show of the Derbyshire Agricultural Society. Liberal prizes. **Eight open classes.** Schedules from F. Walker, Hon. Sec. D.B.K.A., 64, Gerard-street, Derby. **Entries close August 31.**

"HONEY DEW."

So many enquiries have been made respect the abnormal colour and quality of the honey gathered during the last few weeks that we may sum them all up in one reply by saying that the cause of the mischief is the prevalence of honey-dew; and although the several samples are not all equally affected, the result is practically all from the same source. In cases, however, where the flavour is fairly good and the aroma not actually unpleasant the honey should be ripened well and allowed to granulate. It will then be quite fit for sale and use.—EDS.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column

M. B. (Dog Hill).—*Bees not Working in Sections.*—Any failure in this direction must this year be set down to the adverse weather at the time when bees should have been busy honey-gathering. They will probably do better next season.

J. R. (Cranleigh).—*Honey for Showing.*—It is entirely impossible for us to say when honey will be ready for taking off for showing. As a rule the season of in-gathering is already over; therefore we should remove surplus without delay. It is now too late for bees to work in empty sections.

T. L. (Rochdale).—*Quieting Bees.*—Personally we prefer the "Bingham" smoker to a fumigator when handling bees.

H. C. W. (Minehead).—*Honey Samples.*—1. Nos. 1 and 3 are fairly good honeys, though a little dark in colour. No. 2 is far inferior in quality, being deteriorated by honey-dew. 2. We cannot appraise the value of honey. Prices vary so in different localities.

M. W. S. (Slough).—*Honey Samples.*—We call your samples decidedly *above* the average of this season's honey.

J. A. (Dunfermline).—The honey appears to be chiefly from limes, but being more or less touched with honey-dew the characteristic flavour is hidden somewhat. It will do quite well for any purpose so long as the flavour is not objected to.

M. B. (Putney).—*Extracting Honey without an Extractor.*—This can only be done by the old method of "dripping," which means first slicing up the combs and setting them in either a wire gauze covered sieve or in a flannel bag before the kitchen fire. The honey then drips from the combs into a vessel placed below to receive it.

A. B. B.—*Suspected Comb.*—We find a trace of foul brood—of old standing—in two cells only of comb received.

W. B. W. (Torquay).—Bulk of brood is "chilled," but a few larvæ show slight signs of disease.

H. J. M. (Port Talbot, S. Wales).—The Hon. Sec. Glamorgan B.K.A. is Mr. E. Thornton, Bridgend.

A. T. (Cambs.).—*Quality of Honey.*—We congratulate "a novice at bee-keeping," as "A. T." styles himself, in having secured 1½ cwt. of very fair honey for so adverse a season as this. There is no appreciable amount of honey-dew in it, and it will not "lose you custom" in selling it.

*** *Reports of Surrey B.K.A. Annual Show and that of the Northants B.K.A. are in type and will appear next week, together with a number of Replies for which we cannot find room in this issue.*

Referring to "Shows to Come," we invite attention to the extension of time for making entries in the case of Shows at Dover to August 13th, and Swindon to 18th. Those who possess good honey need hardly be told how scarce that important item in prize winning is this year, and will act accordingly, verb sap.

Special Prepaid Advertisements.

Twelve words, Sixpence; for every additional Three words or under, One Penny.

HONEY. Finest White Clover and Heather Wanted. Post samples to SPRING & Co., LTD., Brigg, Lincs

EXTRACTED HONEY, 2½ cwts. 50s. cwt. Cans forwarded. HIGLEY, Rushock, Droitwich. W 69

HONEY JARS, 1-lb. screw cap, 15s. per gross. JAS. DYSON, Stainforth, Doncaster. W 66

NEW HONEY LABELS and LACE PAPER, each 7d. per 100 or 2s. per 500. Free.—GRIMBLY, Minster, Ramsgate. W 25

FINE SELECTED ENGLISH QUEENS, tested, 5s. each, sent in introducing cage. W. WOODLEY, Beedon, near Newbury.

FIFTEEN strong STOCKS of HEALTHY BEES, £1 each in Standard Frame Hives. Must sell for want of space. M. BENNISON, Scorton, Darlington. W 52

HEALTHY DRIVEN BEES, with Queen, 5s. per lot. Boxes returned. A. R. MORETON, Leigh, Worcester. W 63

PROLIFIC QUEENS, 2s. 6d. each; Nuclei, Three Frames and Queen, 10s. 6d. E. WOODHAM, Clavering, Newport, Essex. W 75

WANTED, straight COMBS after extraction. Exchange Driven Bees. Catalogues wanted. BELL, Beverley House, East Barnet. W 72

WANTED, 36 perfect CLOVER SECTIONS. Carriage paid. H. A. V. BODDY, Thorpe Thewles, Ferryhill. W 73

FERTILE ENGLISH QUEENS, 3s. 6d. each, post free, in travelling cage.—JEMEISON, Bee Specialist, Dringhouses, York. W 26

HEALTHY DRIVEN BEES, 1s. 3d. lb., in 4-lb. or 5-lb. lots. Boxes to be returned, or 2s. extra. E. LONG, Fulbourne, Cambs. W 83

DRIVEN BEES, 50 Stocks from skeps (with Queens), 3s. 6d. per stock. Boxes returned. T. PULLEN, Ramsbury, Hungerford. W 81

HEALTHY DRIVEN BEES with Queen. Single lots, 3s. each; two lots together, 5s. Packing cases free. GEORGE COLLINS, Potton, Beds. W 80

Prepaid Advertisements (*Continued*).

WANTED, PURE LIGURIAN QUEEN, with BEES on FRAMES in exchange for single frame Observatory Hive or full-size one-frame Extractor. G. LEDGER, Weybridge. W 79

FOR SALE, 4 cwt. finest EXTRACTED HONEY, 6½d. per lb., cash or deposit. Purchaser sends tins. Sample 4½d. JOHN DANCE, Little Common, Inkpen, Hungerford, Berks. W 78

QUEENS RAISED under most favourable conditions, 5s. each, with introducing cage. Post free. Safe arrival guaranteed. Importer of foreign queens. Address, Rev. C. BEERETON, Pulborough, Sussex.

PEN of BUFF COCHINS (cock and three hens), hatched 1897, and winners of numerous prizes. Exchange for BEES. H. THOMAS, Park-terrace, Burry Port, Carmarthenshire. W 74

SMALL SWARMS with young fertile queens for building up or uniting to queenless stocks, 5s. 6d. case included, on rail. Fertile queens 3s. 9d. each, delivered. ALSFORD, Expert, Blandford.

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. Neat Patterns. W. WOODLEY, Beedon, Newbury.

THOS. J. HORSLEY, has comfortable APARTMENTS for brother bee-keepers visiting the Isle of Man.—Merridale House, Empire-terrace, Douglas, Isle of Man. W 27

HEALTHY DRIVEN BEES SUPPLIED immediately, with 1898 Queens, also the best quality sections and extracted clover honey. Cheap. Satisfaction guaranteed. Approval. SPEARMAN, Colesbourne, Andoversford. W 59

BRICE'S RELIABLE QUEENS. Well-known strain, one quality, one price. Mated tested Queen, 5s. 6d. Post free in my perfected travelling and introducing cage. Quality and safe arrival guaranteed. HENRY W. BRICE, Dale Park-road, Upper Norwood.

HEALTHY DRIVEN BEES, with young Queen, at 1s. 3d. per lb., not less than 4-lb. lots. Boxes to be returned, carriage paid. Also young Fertile Queens, at 2s. each. Free by post. R. BROWN, Flora Apiary, Somersham, Hunts. W 76

TWO OBSERVATORY HIVES (take two standard frames each), 15½ top bar, varnished, 12s. 6d. each. Shallow Frames of Comb, 1½ in. top bar, 5d. each. Full-size Standard Frames of Comb for extracting, 1½ in. top bar, 8d. each. JOHN WALTON, Honey Cott, Weston, Leamington. W 77

TO BEE-KEEPERS. Advertiser must dispose of following, with honey, at a great sacrifice, premises having been taken for railway extension:—Three 1897 Swarms, and Six Swarms, May and June, 1898, Three Box Hives, Seven Skeps, Sections, and Accessories. A genuine bargain. Can be seen at any time by appointment. R. D. DANIEL, Hindley House, East Acton, Middlesex. W 82

BEES of my well-known strain, fine tested 1898 Fertile Queens, 3s. 6d. each, safe arrival guaranteed. Strong three-frame Nuclei with Queen, 12s. 6d., six-frame Stocks, 20s., eight-frame ditto, 22s. 6d. Bees, 1s. 6d. per lb. for 5 lb. lots and over. Queen included. Packages to be returned. Guaranteed healthy. WHITING, Valley Apiaries, Hundon, Clare, Suffolk. W 42

PURE ENGLISH HONEY, first quality, 6½d., second quality, 5d. lb. Sample 2d. Bees, splendid workers, 8-frame stock, £1, 6-frame, 17s. Warranted healthy. Cash or deposit. ALBERT COE, Ridgewell, Halstead, Essex. W 84

THE SCOTTISH BEEKEEPER.

PUBLISHED FORTNIGHTLY. **3s. 3d.** per annum, Post free.

Send stamp for specimen copy of current number. It will please you.

WILLIAM ORMISTON,
BIGGAR, N.B.

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—For the last few days we have been enjoying (?) what is popularly called a "heat wave." Not that there is much of enjoyment in a temperature which yesterday, in the Strand, went up to 88 deg. Fahr. in the shade. It is, however, very good for bee-keeping, and will no doubt help to fill the brood-chamber of many a hive which sadly needed replenishing. BEE JOURNAL readers are now so well and reliably informed in meteorological matters—thanks to our esteemed correspondents the Rev. L. B. Birkett, of Sussex and Mr. F. Coventry, of Northants—that we need do no more than refer to the reports they kindly favour us with for full information concerning the weather.

The few remarks we thought it well to make—on page 301 of our issue for August 4—regarding the present honey season has apparently not only let in some "light," so far as making more clear the nature of what is called honey-dew, but have also had an effect we never anticipated, and indeed hardly dared to hope for. In other words, the sort of small avalanche—or shall we call it "wave"?—of bad samples of honey with which this office seemed in danger of being overflown, is now met by a counterblast in the shape of good samples, that if it goes on there seems a fair chance of the good outweighing the bad. This makes it quite clear that there *is* some good honey in the country after all, and the "ray of light" to which we referred in our closing words on page 302 has been followed by a flood of sunshine nearly equalling that of the past few days' weather.

The following letter, accompanied by a section of white-clover honey, which, for whiteness of capping, fine flavour of honey, and spotless cleanliness of the wood of section, left nothing to be desired, reached us by parcel post in a double-glassed tin section case, perfectly safe and unbroken, from Ireland. Our correspondent, dating from co. Kerry, August 8, says:

"I feel quite sorry for you under the infliction of that shelf full of specimens of black honey-dew, as so pathetically described in your editorial of August 4. Permit me to add one more 'ray of light' (honey) to help mitigate the darkness! What do you think of the enclosed section as a specimen of what we can do in 'the wilds of Kerry?' I have had very little honey-dew; just a few of the first sections were tinged with it, making them look like heather honey. But they were not unpleasant; in fact, several members of my family liked the flavour, so it could not have been much. We are surrounded with sycamores, too, but the rain kept the leaves well washed. Hoping you will like the flavour of my sample as well as its appearance.—E. A. P."

We thank "E. A. P." not only for a taste of his beautiful Irish honey, but for proving to us that, with proper care in packing, and only sending such sections as are secured to the wood all round, they can go safely by post, even from the "wilds of co. Kerry."

While sympathising with those of our readers whose natural disappointment at their bad luck will be great, it is certain that none will grudge the good that has come to a large number of bee-keepers. But any attempt to reply in print to the scores of letters making quite excusable requests for an opinion on their produce, good and bad, would far more than fill every page of this issue. We therefore just ask that it may be considered enough to say that very good samples have reached us from several parts of Devon; Tavistock and Bideford yielding excellent samples, and a great many bad ones from that county. The same may be said of Yorkshire; but we fear the bad largely predominates. Then Hereford makes a fairly good show with the later specimens; but the early ones are poor. We say nothing of our southern counties, except that they figure largely on the "black" list. When, however, we reach Wales we improve at once. It is a case of "gallant little Wales," for some splendid samples come from there. Scotland, too, has sent a few very good specimens indeed.

The letter printed above must speak for Ireland, and so we close by saying remainder of "Hints" next week.

SURREY B.K.A.

ANNUAL SHOW AT BEDDINGTON.

The third annual exhibition of the S.B.K.A. was held in connection with that of the Horticultural Society in Beddington Park, near Croydon, on Bank Holiday, Monday, August 1, 1898. The exhibition was a success, there being fifty-one more entries than last year, notwithstanding the unfavourable season. The number of classes was also increased from nine in 1897 to sixteen in 1898. Eight medals were offered for competition, and the number and value of the prizes was much larger. Consequent on the increase in the number of entries the prizes were keenly contested. The six observatory hives staged were of themselves a great attraction to the show, and greatly interested the visitors.

The class for appliances was an excellent one. Messrs. Lanaway & Son, Redhill, Lee & Son, London, and J. G. Greenhill, of Wimbledon, each staged a splendid collection, each exhibit covering over thirty feet of staging. Mr. Overton had a good stall, but did not compete.

A large marquee, eighty feet by thirty, was well filled, tastefully arranged flowers being introduced to separate the several classes. The whole arrangements reflect great credit on the Show Committee of the S.B.K.A., who carried out and managed the bee department.

Mr. Overton lectured in the bee tent, which was visited by hundreds of persons, who showed considerable interest in the proceedings.

Mr. J. H. Evans, Wimbledon, and Mr. F. S. Fletcher, Attershaw, Chertsey, judged the exhibits and made the following awards :—

Twelve 1-lb. Sections.—1st, E. Bontoft, Caterham Valley; 2nd, A. Watkin, New Malden; 3rd, F. B. White, Red Hill; h.c., J. W. Lewis, Farnham; c., F. T. Wollaston, Reigate.

Six 1-lb. Sections.—1st, G. E. Langrish, Frensham; 2nd, J. Taylor, Dorking; 3rd, R. Rodgers, Horley; h.c., F. B. White; c., F. T. Wollaston.

Six 1-lb. Sections (Heather).—3rd, A. Seth-Smith, Cobham; no other prize awarded.

Three Shallow Frames.—1st, H. Sayers, Junr., Chessington; 2nd, F. B. White; 3rd, A. Watkin; h.c., R. C. Blundell, Horley; c, F. B. White.

Special Prize.—The Silver Medal of the S.B.K.A. was awarded, for single frame of comb honey, to H. Sayers, junr.

Twelve 1-lb. Jars Extracted Honey.—1st, H. Ketcher, Cranleigh.

Six 1-lb. Jars Extracted Honey.—1st, John Davis, Cranleigh; 2nd, Harry Ketcher, Cranleigh; 3rd, John Gilbert Merrow, Guildford.

Six 1-lb. Jars Dark-coloured Extracted Honey.—1st, G. E. Langrish; 2nd, J. R. Aubry, Woking; 3rd, A. H. Miller, Egham; h.c., H. Sayers, junr.

Twelve 1-lb. Jars Granulated Honey.—1st and 3rd, F. B. White; 2nd, J. R. Aubry.

Beeswax.—1st, Harry Ketcher; 2nd, G. E. Langrish.

Single 1-lb. Section.—1st, E. Bontoft; 2nd, A. H. Miller; 3rd, A. Watkin.

Single 1-lb. Jar Extracted Honey.—1st, W. R. Billing, Elsworth, Cambridge; 2nd, James Earl, Crawley; 3rd, J. Davis; h.c., H. Ketcher; c., A. H. Miller.

Observatory Hive.—1st, J. Lampert, Merton; 2nd, J. S. Greenhill, Wimbledon; 3rd, C. T. Overton, Crawley.

Collection of Appliances.—1st, J. S. Greenhill; 2nd, Lanaway & Son, Redhill; 3rd, Jas. Lee & Son, London.

Most Complete Frame-hive for General Use (cost not over 15s.)—1st, J. S. Greenhill; 2nd and 3rd, Lanaway & Son.

NORTHAMPTONSHIRE B.K.A.

The annual show of the N.B.K.A. was this year held (in connection with that of the Horticultural Society) by permission of Earl Spencer in the beautiful grounds of Althorp Park on August 1 and 2. Considering the unfavourable season for honey a large and fine display was made. Amongst the ninety-two exhibits of honey staged, a sprinkling of the prevailing dark colour of '98 was noticeable. Some good supers and designs were sent (not for competition) which made a pleasing variety to the exhibit.

Messrs. W. Winterton, Jas. Francis, and J. R. Truss judged the honey and wax; Mrs. Jordan and Mrs. Alldread the honey cakes, their awards being as follows :—

Twelve 1-lb. Sections.—1st, C. Wells, Oxendon; 2nd, C. Cox, Brampton; 3rd, L. Jordan, Holdenby; 4th, J. Adams, West Haddon.

Twelve 1-lb. Jars Extracted Honey.—1st, C. Cox; 2nd, L. Jordan; 3rd, Wm. Manning, Northampton; 4th, Geo. Page, Holcot; 5th, J. Adams. Special prize for dark honey, C. Wells.

Six 1-lb. Jars Granulated Honey.—1st, W. Manning; 2nd, W. Litchfield, Weedon; 3rd, J. Adams.

Three Shallow-Frames of Honey in Comb.—1st, J. Adams; 2nd, C. Cox; 3rd, C. Wells.

Beeswax.—1st, C. Wells; 2nd, L. Jordan; 3rd, Ed. Underwood, West Haddon; 4th, C. Cox.

Six 1-lb Sections (winners at previous shows not eligible).—1st, F. J. Old, Piddington; 2nd, C. Croft, Dallington; 3rd, G. Page.

Six 1-lb. Jars Extracted Honey.—1st, W. Manning; 2nd, G. Page; 3rd, C. H. Smith, Woodford; 4th, Rev. J. W. Scamell, Welford.

Glass or Glass and Wood Super.—2nd, J. Sturges, Boughton.

SPECIAL PRIZES.

Single 1-lb. Jar Extracted Honey (open to all).—1st, W. H. Woods, Hemingford Grey; 2nd, C. Cox; 3rd, W. Litchfield; 4th, W. Patchett, Thorseway; 5th, Mrs. Cox; 6th, W. Loveday, Harlow, Essex.

Single 1-*lb. Jar Extracted Honey* (*workhouse class*).—Equal 1st, C. Cox and W. Litchfield; 3rd, W. Patchett; 4th, W. Loveday.

Honey-Cake.—1st, Mrs. Wells; 2nd, Mrs. Cox; 3rd, Mrs. C. H. Smith; 4th, Mrs. E. C. R. White, Romsey.

NORTH NORFOLK B.K.A.

SHOW AT MELTON CONSTABLE.

The annual show of this Association, held in conjunction with that of the Melton Constable Horticultural Society, by permission of Lord Hastings, in Melton Constable Park, took place on August 1. Favoured by a fine day there was a large attendance of visitors from the neighbouring holiday resorts, but unfortunately the adverse season did not allow them to see the high-class honey usually staged by this Association, most of the exhibits being of a very dark, uninviting character. Of course, there were exceptions, chief among which was the first prize in the open single bottle class. The first prize lots in the comb-honey class were also of fair quality. In the trophy class the comb devices were good in construction. The show arrangements were well planned and carried out under the management of Mr. C. J. Cooke, of Edgefield, the hon. secretary. Mr. T. J. Weston judged the exhibits, and also conducted an examination for the third-class expert's certificate of the B.B.K.A.

PRIZE LIST.

Honey Trophy.—1st, S. Fisher, Melton Constable; 2nd, C. Cage, Melton Constable; 3rd, H. W. Woolsey, Edgefield.

Twelve 1-*lb. Sections.*—1st, Mrs. Crafer, Langham; 2nd, W. J. Norman, Harpley; 3rd, H. High, Salthouse.

Twelve 1-*lb. Jars Extracted Honey.*—1st, W. J. Norman; 2nd, H. High.

Twelve 1-*lb. Sections* (*open*).—1st, Mrs. Crafer; 2nd, W. J. Norman; 3rd, A. Chestney, Bale.

Twelve 1*lb. Jars Extracted Honey* (*open*).—1st, W. J. Norman; no other award.

Single 1-*lb. Jar Extracted Honey* (*open*).—1st, W. H. Woods, Hemingford Grey; 2nd, W. J. Norman; equal 3rd and 4th, H. W. Woolsey and G. Woolsey.

Beeswax (*members only*).—1st, S. Fisher; 2nd, H. W. Woolsey.

Driving Competition.—1st, J. Platten; 2nd, A. Chestney.

(*Communicated.*)

LANCASHIRE AND CHESHIRE B.K.A.

A committee meeting of the above was held on July 25, at Grosvenor Chambers, Chester. The Rev. J. F. Buckler in the chair. There were also present the Revs. T. J. Evans and E. Charley, Messrs. George Roberts, George Rose, W. E. Little, and Thos. D. Schofield. Letters regretting their inability to attend were read from Dr. B. E. Jones, Mr. J. A. Bally, and Mr. T. F. Harrison.

The Chairman was requested to send a letter of condolence to the family of the late Mr. Ernest Lings, who was a member of the committee.

The following recommendation of the sub-committee appointed at the last committee meeting was carried:—

"That Dr. B. E. Jones having placed his resignation as hon. secretary in the hands of the committee, the sub-committee recommend that it be accepted, and that Dr. Jones be asked to kindly hand over at once to the treasurer (Mr. Schofield) all documents and other property belonging to the Association. The sub-committee further recommend that the Rev. E. Charley be appointed hon. secretary."

Owing to the delay in getting out the annual report and list of members with their subscriptions, it was decided that no further steps should be taken to have this printed.

All communications should now be addressed to the Rev. E. Charley, Ince Vicarage, near Chester.

BRISTOL, SOMERSET, AND SOUTH GLOUCESTER B.K.A.

ANNUAL SHOW.

This Association held its annual show in connection with that of the Clutton Horticultural Society on the 10th inst., and it proved one of the most successful that the Association has ever held. The number of entries was 143. In spite of the bad season the honey was excellent, with comparatively few exceptions. The judges were Mr. Hamlyn-Harris and Mr. Jordan, whose awards were as follows:—

OPEN CLASSES.

Collection of Honey.—1st, Mr. Wilcox.

Single 1-*lb. Jar Extracted Honey.*—1st, Mr. Beale; 2nd, Mr. Billing; 3rd, Mr. Withycombe; h.c., Mr. Fear and Mr. Wilcox.

Single 1-*lb. Section.*—1st, Mr. Chapman; 2nd, Mr. Johnson; 3rd, Mr. Withycombe; h.c., Mr. Wilcox, Mr. Addison, and Mr. Newman.

Three Jars Extracted Honey, 1 *lb.*, ½ *lb.*, *and* ¼ *lb. respectively.*—1st, Mr. Caple; 2nd, Mr. Withycombe; 3rd, Mr. Fear.

Twelve 1-*lb. Jars Extracted Honey.*—1st, Mr. Flower; 2nd, Mr. Withycombe; 3rd, Mr. Caple; h.c., Mr. Addison.

Three 1-*lb. Sections in Blow's Sections.*—1st, Mr. Withycombe.

MEMBERS ONLY.

Display of Honey in Trophy Form not over 56 *lb.*—1st, Mr. Withycombe; 2nd, Mr. Kirby; 3rd, Mr. Johnson.

Twelve 1-*lb. Sections.*—1st, Mr. Chapman; 2nd, Mr. Withycombe; 3rd, Mr. Addison; h.c., Mr. Morris and Mr. Kirby.

Three Bar-frames of Comb Honey. — 1st, Mr. Addison ; 2nd, Mr. Caple ; 3rd, Mr. Wilcox.

Twelve 1-lb. Jars Extracted Honey.—1st, Mr. Caple ; 2nd, Mr. Flower ; 3rd, Mr. Withycombe ; h.c., Mr. Chapman.

Bees' Wax.—1st, Mr. Wilcox ; 2nd, Mr. Flower ; 3, Mr. Kirby.

Three 1-lb. Jars Granulated Honey.—1st, Mr. Kirby ; 2nd, Mr. Johnson.

Best Super.—1st, Mr. Porter.

Interesting and Instructive Exhibit.—1st, Mr. Wilcox ; 2nd, Mr. Withycombe.

Complete Inexpensive Frame Hive.—1st, Mr. Withycombe ; 2nd, Mr. Kirby ; 3rd, Mr. Wilcox.

Collection of Bee Flowers.—1st, Miss H. Dawe ; 2nd, Mr. Wilcox ; 3rd, Mr. Withycombe.

Greatest Aggregate Number of Points in foregoing Classes.— 1st, Mr. Withycombe ; 2nd, Mr. Wilcox ; 3rd, Mr. Caple.

SHOW DISTRICT.

(The prizes being presented by the Society of the Clutton and District Flower Show).

Six 1-lb. Sections (confined to Show District).—1st, Mr. Viner ; 2nd, Mr. F. Maggs ; h.c., Mr. Cox, Mr. Carter, and Miss Templeman.

Six 1-lb. Jars Extracted Honey.—1st, Mr. Johnson ; 2nd, Mr. Carter.

Three Bar-frames of Comb Honey. — 1st, Mr. Watts ; 2nd, Mr. G. Maggs. — *(Communicated.)*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEES AT THE YORKSHIRE MOORS.

[3352.] On visiting my hives on Saturday last, which I had taken to the moors a week ago, I was somewhat surprised and interested to see a "cast" on the top of one of my neighbour's hives. The place was Slapestones, above Osmotherley, which has a stretch of several miles of heather coming nicely into bloom, and promising to yield a rich harvest of honey. There are at present upwards of ninety hives collected for the flow, and more are expected by the caretaker this week. One of my neighbours had placed a large stone upon one of his hives—to keep the wind from blowing it over I suppose—and upon this stone the bees had clustered. Thinking it perhaps unusual to see them in such a position I thought your readers might be interested to hear of it ; but, of course, as I am one of the craft of only a summer's growth there may be nothing extraordinary in such a sight, and in my simplicity I may be writing about something of frequent occurrence. One of my friends told me the reason of it might be that the queen of the hive, having got damaged in transit, other queen cells had been formed, and the hatching of more than one taking place might account for it ; but as there were no stocks there a week ago, this could not be the case. If you can throw any light upon it I shall be pleased to hear it.—R. T. T., *Thirsk, August* 15.

TREATING FOUL BROOD.

[3353.] I am sorry to report foul brood in my district, and I have not escaped the contagion which I am combating vigorously. I wish your correspondent "Gwenyn" (3342, p. 304), would describe the means by which Mr. John Berry of Llanrwst, "masters" the pest. Any information of that kind would, I am sure, be welcome by your readers. I intended to smother all bees in my infected hives, but I should prefer a less drastic mode of treatment if effectual.—AN IRISH BEE-KEEPER, *August* 8.

[We had the pleasure of making Mr. John Berry's acquaintance at the late "Royal" Show, Birmingham (where it was our privilege to give him a "good pass" with his 3rd class certificate of the B.B.K.A), and there had the opportunity of fully testing his knowledge of foul brood and how to deal with it. We can thus testify to his all-round ability as—to use his own words—"a working man bee-keeper." He then assured us that he never destroys affected bees, and has the pest in his apiary several times through careless bee-keepers in the district ; but he always gets the bees off the infected combs, which latter are promptly burnt. Without going further into the matter here, we will ourselves invite Mr. Berry's attention to our correspondent's request for the method of treatment followed.—EDS.]

BEE NOTES FROM NORTH YORKS.

[3354.] Not having seen any account of bee doings, &c., from this district (North Yorkshire), I beg to trouble you with my first attempt at bee notes.

The first honey crop from fruit trees was a failure, and as white clover is the next, I got my twenty-one hives up to working-point for beginning of July, and having supers on all of them, only four swarmed. The swarms returned to the hives, and issued again on following day, when two were secured, but the other two went back, and came out again a few days after, an occurrence which rather puzzled me.

Most of the bee-keepers round here stick to the old skep, and the consequence is I get good

crops of honey and they do the grumbling. I have come to the conclusion that skep bee-keepers (round here) must be very dense, seeing that when my frame-hives yield such good results they do not adopt them.

The bees had a glorious fourteen days of work during July, honey fairly rolling into the hives. There is any amount of white clover here yet, but the bees are not working much on it. Can you tell me why this is?

I have some grand nuclei hives with young queens to replace old ones. I showed them to an old skeppist (thirty years a bee-keeper), and he confessed it was wonderful.

I began with one hive four years ago, and I have now thirty hives in a very small garden, and find them no trouble as regards robbing and stinging. I owe all my success to reading *Bee Journal* and "Guide Book," and I feel a deep sense of gratitude to our Editors for enabling me to enjoy so much pleasure and profit.

My total yield this year up to now will be about 420 lb. I enclose sample, and may say all my honey is like it. Do you call it good?

I am now busy packing up hives for moors, and hope to send you an account of how bees are doing there later on.

I find bees do pay when well looked after; and as for selling honey at 1s. per lb., I wish I had double my quantity to sell, for, when properly put up, I have no difficulty in selling it. I have not been troubled with honey dew. —YORKSHIRE DRONE, *Darlington, August* 6.

[It is found that bees rarely work so well on white clover after the end of June or first week of July, except in the very far north. The honey sent is a capital sample for such a year as this, and would be called good in any year. Should you have a good fortnight at the moors, the total yield will be very satisfactory indeed, and we congratulate you on so good a result.—EDS.]

BUYING BRITISH HONEY.

[3355.] It may interest you to know that last season we bought over seventeen tons of pure English honey, and are buying the same quantity again this year. Already we have secured ten tons from our own and neighbouring counties.—SPRING & CO., LIMITED, *Brigg, Lincs., August* 5.

[We do not—for obvious reasons—as a rule publish letters like the above, but it will be an encouragement for all readers to learn how large a trade in British honey is done by a provincial firm in one season; and we thank Messrs. Spring & Co. for the information.—EDS.]

BUYING DISEASED BEES.

DEALING WITH FOUL BROOD.

[3356.] Referring to my former communication (2054, p. 247) I have always intended to supplement it with a further letter when I got time to write, which I now do. I may say at the outset that when feeding in spring I used 7 lb. of sugar added to 5 lb. or 6 lb. of honey extracted from a diseased hive. This was done in ignorance, and, though not medicated according to "Guide Book," the mixture of honey and sugar was not even boiled. The united swarm would not take syrup, the weather being good at the time. I examined the combs to-day and found eleven frames of brood; but, alas! the ravages of foul brood were only too apparent. Notwithstanding preventions, I am at a loss how to proceed now; but I notice that if pollen is to be had, the bees immediately plug foul cells with it. One hive had gone the length of plugging in this way until there was no room for the queen to lay. I took out all these combs and syringed the pollen out with a garden syringe, tepid water, and phenyl. The combs were returned beautiful and clean, but the process did not stamp out the pest, and eventually the whole lot was burned and an artificial swarm made of the bees. I have so far committed four stocks to the flames, and put the bees on new frames, new foundation, and fed with medicated syrup. I am now dubious as to any success in stamping it out. My success last year with extracted honey induced me to spend the winter in making seven new hives, so that my expenditure amounts to about £10, without reckoning my time in hive-making. I think it would be a good thing to start a national insurance society against the destruction of hives infested with foul brood.

I have only two hives working in sections, that is, a stock and its swarm, and if the weather continues as at present a few sections may be completed.

I can recommend syringing to clean out pollen-plugged cells from healthy frames, but never again will I attempt the same with any containing foul brood cells plugged up. A description of the process may be useful:—Place the frame bottom upwards against a nearly upright board behind a square fixed wash-tub; half fill the tub with tepid water whitened with phenyl, and do side about, giving the water a jerk out occasionally. Use the spray hose.—D. V., *Dunaskin.*

REMOVING BEES FROM OUTHOUSE.

[3357.] For the information of "W. H. W." (Stroud), (2087, p. 309), I beg to say:—Some years ago a colony of bees took up their abode between the slates and roof of an outhouse at the place where I am employed, and my employers, wishing to get rid of the bees, I offered to try and remove them. Last week, therefore, we fixed ladders, and after taking off the slates we cut the combs out, all that had honey in them being carried away in buckets. The brood combs were placed on one side and kept warm until we had finished. We then secured the brood combs in a straw skep, and placed near to where we had cut the combs from, so

that the bees could go in. The same evening I carried the skep home and put it in a bar-framed hive. There was not, however, nearly so many bees in as I expected to find, and so next evening I again examined the place we had taken the bees from, and there found a large cluster of bees under the slates that we had left behind. I again removed the slates and placed another skep over the cluster, gave the bees a few puffs of smoke, and they soon commenced to go into the skep, which they quite filled. I afterwards found that the bees had built a piece of comb in the old spot, and the queen had laid eggs in it since being disturbed the previous day. I took them home, and next morning placed queen excluder over the frames in the hive where I had put the skep, and let the bees and queen run in at the entrance, and they are going on all right, and, I believe, will make a strong stock for next year. We did not weigh the honey removed, but I should say there was about sixty pounds of it. I have advised them to mix a little carbolic acid with lime to whitewash the rafters where the combs were fastened to previous to replacing the slates, to prevent another swarm going there.—L. H., *Aberystwyth*, *August* 9.

STING REMEDIES.

[3358.] Our two friends, "F. C." (3338, p. 294) and G. Newman (3343, p. 304), claim our sympathies, but in neither communication do I find any reference made to the *sine quâ non*, the "bee-veil." We read in the distich that "Fools rush in where angels fear to tread." Bees are not domesticated, and, consequently, must not be relied on.

Mr. Newman is a very interesting inquirer, but, in my humble opinion, there is a remedy close at hand, unthought of and forgotten, that is moist earth. I would remind our friends that no outward application will cure. I am skilled in simples. The moist earth will alleviate, but the formic acid from the sting of the bee will be carried by the circulating blood to every part of the human frame in about ten or twelve pulsations of the wrist; consequently there is no time to rake up "cases;" but keep a saline draught in a bottle near at hand, or even a seidlitz powder, and wear a veil. I am bee-proof in the hands; but do not care to be "bunged up" elsewhere.

Don't grumble, dear brother bee-keepers, discretion is necessary; don't be taken in again by too much confidence, "For them there bees are regular Hooleyolites."—L. Mac(?), *Winchester*, *August* 15.

COUNTY COUNCILS AND BEE-KEEPING.

[3359.] I notice in a west country paper that Wilts County Councillors are favourable to bee-keeping efforts, but the W.B.K.A. seems to have opened their mouth so wide as to frighten them. It would be well to hear both sides, but this is what is reported in the papers: — "The Agricultural Committee reported that they have arranged for an examination being held in connection with the British Bee-keepers' Association in order that persons who have been pupils at the classes may enter for the expert's certificate. They also propose to pay an inclusive fee not exceeding 30s. for each visit made by the county experts to horticultural shows. Colonel Best remarked that the Wiltshire Bee-keepers' Association found fault with the County Council for not subscribing to their funds. They had done all they could to work with the Bee-keepers' Association, but their secretary last year laid down such curious conditions that the Committee were unable to comply with them. The recommendations in the report were adopted." — E. D. Till, *Eynsford*, *August* 12.

[Just before going to press we have a "wire" from our correspondent to say the "Kent County Council Technical Education Committee grant £15 to the Kent and Sussex Bee-keepers' Association for bee-work in the county of Kent." Not a large sum certainly, but we must bear in mind that "half a loaf is better than no bread," so it will suffice for a beginning.—Eds.]

THE GEDLEY DISASTER.

[3360.] Your list of August 11 confirms my fears as to bee-keepers not rising to *this* occasion! It seems to me that your apology, like most excuses, "doth make the fault the worse by the excuse." Bee-keepers, as a rule, are industrious and thrifty, and there must be few who cannot afford a couple of pounds of honey towards mitigating the severity of a *pure* misfortune. I send you two bottles of honey by way of suggestion. Those who cannot contribute in cash may perhaps do it in "kind." — E. D. Till, *Eynsford*, *Kent*, *August* 12.

BEES AND VIBRATION.

DANGERS OF BEE-KEEPING.

[3361.] I hope you will not be altogether uninterested if I venture to suggest the subject of bees and vibration as one which might be of use to your readers. I do not mean vibration inside the hive, or by the bees fanning at the door outside, though I might just observe with regard to the latter point that the fanners, by standing on tiptoe (especially with their hind legs), raise their wings so that bees going in and out to and from foraging expeditions can walk under the wings of the fanners without interrupting their operations for a second; but I mean vibration from causes apart from the hives.

I am moved to write this because only last night a railway station near here was thrown

more or less into confusion by passengers and porters being attacked by bees. Several people were stung. The bees were fierce. Their hives were a good hundred yards from the station, but close to the line. I think that the vibration of the trains passing by may have had something to do with their fierceness; though, of course, rough handling may have had quite as much to do with it; but, handled or not, the bees have been a source of annoyance in the station all the summer long.

A few years ago we had a worse case. A large dog was chained up some yards from three hives, hidden from them by a fence and faggots; the dog barked (vibration); the dog was stung to death. The hives were within two yards of a road, though separated from it by a 10-ft. wall. The bees in these hives were the most difficult to handle I ever came across. Smoke only maddened them. Taking a super, even with a clearer, was an arduous task. I suggest that perhaps the vibration set up by the carriages and carts traversing the road was one cause of this irritability. The bees were moved to a distance from the road, and they are quiet enough now.

You and your readers will know whether such a subject as this is worthy of attention, and whether it has been long ago decided. But it appears to me that a peaceful bee-keeper, who loves quiet himself, will do well to set his hives where no miniature earthquakes of rushing trains, or rumbling waggons, or clattering mowing-machines can disturb the inmates of his hives.—R. S. R., *Stockbridge, Hants, August 9.*

[It is so common a thing for bees to be kept successfully, and with profit, on railway banks and close to stations, that we think it safe to say that the cause of such mischief as is referred to above must be sought for outside "vibration." The illustration in bee-garden pictures and the "text" connected therewith show plainly that with proper care and management no trouble need be feared. Nevertheless it would be easy to disparage the keeping of bees in any form in the minds of some persons if we were to search out and publish all the accidents caused by or attributed to the terrible sting of the bee. But we venture to think that most sensible persons will as soon be disposed to give up travelling by rail or road because of accidents, as attach weight to the same theory with regard to bee-keeping.—EDS.]

BEES AND BEE-KEEPING IN INDIA.

APIS DORSATA.

[3362.] It may interest those who followed the correspondence on the above subject some time ago to know that I have heard from the Rev. T. J. L. Mayer, referred to previously. He writes from Sheikbudin, Punjab, N.I., and says: "I have written for the last Government Blue Book on Indian bees. I think your chance with *Apis Dorsata* is nil. I had seven hives hived and fed all winter, and in the spring the little brutes decamped by twenty and thirty a day, until each queen, in turn, got disgusted and left the hive. Your only chance is with the hill bee, *Ghalozi*. No unicomb bees will ever be domesticated unless put into hives whose entrance board is at the top, *i.e.*, under the eaves of our modern hives."

Is this species (*Ghalozi*) akin to *Apis Indica?*—R. HAMLYN HARRIS, F.E.S., *The Conifers, Hambrook, near Bristol.*

BEE STINGS.

[3363.] If your correspondent "F. C." (3338, p. 294) gives up fomenting and otherwise interfering with the wound caused by the bee's sting he will experience less effect from a sting. Strong ammonia should be applied to the wound at once, and a little vaseline night and morning afterwards will keep the skin over the swelling soft; but those who have to live by their bees have little time to think of these things, and take the stings as part of the business.—W. LOVEDAY, *Harlow, Essex.*

BEE FORAGE IN SOUTH AFRICA.

[3364.] The flowering of the buck-weed has been such an important event to bee-keepers here that I think it is worthy of a record in the B.B.J.

The peculiarity of this plant is that it only flowers at intervals of seven years, or thereabouts. Its scientific name, for which I am indebted to a botanist friend, is *Ecteinanthus origanoides*, order *Acanthacea*, and it grows in the bush along the coast, and, under ordinary circumstances, serves as food for buck and cattle, and hence, no doubt, its name.

The flower somewhat resembles the nettle in shape, and is white touched with purple, and is so plentiful that the bush has the appearance of being covered with a slight fall of snow extending for several hundred miles.

The pollen is quite white; the bees, catching it in the head and thorax, pour in as white as millers, and the cappings of sections are very fine.

The first flowers appeared about the middle of March, and all April the blow kept on well; but very cold weather set in the middle of May and put a stop to it, although flowers continued until the end of June.

One peculiar effect was the extraordinary number of swarms, every tree where there was any possibility of finding cover having a tenant. Many were very small, evidently casts, but some large takes of honey were made by the "bush-scrapers."

The plant dies off completely after flowering, coming up the following spring as quite a small weed and gradually enlarging until the seventh year, when it is a good-sized shrub, when the flower again appears.

The honey is of excellent quality, being a

fine amber colour, very clear and thick, and the flavour finer than any one gets here.

I must thank you for the information regarding the waspish enemy contained in your issue of April 7 last (3219, p. 136), and also Mr. Sladen for kindly supplying it, and will look out again in the spring. It has gone now, but this place, being a mass of sand, is a favourite place for those kind of insects; but as regards the disposal of the victims, I had already tried to find out, but could not see a wasp actually carry off a bee. They appear to suck them and leave them, as I watched by a corpse for a long time, but nothing further happened.

We are now in the middle of winter, and with the other insects hibernating, *apis mellifica* has it all her own way with the peach trees, and the winter honey flow is on.

I have taken the liberty of cribbing the copy of your co-editor's lecture on bees in relation to crops for the benefit of the "farmers' column" in the local paper, where it has appeared and found of great interest, this being a great place for fruit farming.—A. C. S., *Durban, Natal, S. Africa, July* 8.

HORSES STUNG BY BEES AT GEDLEY, NOTTS.

COMPENSATION FUND.

Subscriptions received this week :—

The Baroness Burdett-Coutts	£2	0	0
David Raitt (Blairgowrie)		5	0
"Anon" (a thankoffering)		5	0
S. E. (Farningham)		5	0
J. Willard (Highgate)		2	6
T. B. (London)		2	6
A. Boldero (Romsey)		2	6
C. Whiting (Hundon, Suffolk)		2	6
W. Blackwell (Birmingham)		2	6
Miss S. J. Cooper (Leicester)		2	6
John Walton (Leamington)		2	0
"W. P." (Birmingham)		1	0
John Banting (Llantrysant)		1	0
Glyn Grylls (Sheldon)		1	0
S. Jordan (Bristol)		1	0
David John (Birch-grove)		1	0

Queries and Replies.

[2092.] *Extracting Unsealed Honey.*—"*Ekes*" *for* "*W. B. C.*" *Hives.*—Before asking a couple of questions, I may tell you what returns of honey my three hives have made :—No. 1 yielded eleven full shallow frames and nine 1-lb. sections (netting 39 lb.); No. 2, ten shallow frames and fourteen 1-lb. sections (41 lb. net); No. 3, ten 1-lb. sections only. No. 3 swarmed on July 2, and the swarm has filled eight frames with brood and honey, but done nothing in sections. When No. 3 swarmed on July 2, I cut out all queen cells but one from all the three hives. The flavour of all my honey is excellent, though some of the sections are of a dark greenish colour. Nearly all the brood-frames show darker honey than last year. One of my friends, who did not cut out queen-cells, has secured nearly 100 lb. from one hive; but he extracts the shallow frames continually before the honey is sealed. My questions :—1. Is there any serious objection to taking off and extracting unsealed shallow frames? 2. Do you recommend the use of ekes? I have four lying unused, supplied with each "W. B. C." hive I have bought.—T., *Ledsham, Chester, August* 13.

Reply.—1. Honey, if extracted before being sealed over by the bees, is unripe, and, in consequence, becomes liable to fermentation if kept for any length of time. Besides being more or less thin, the quality is much deteriorated. 2. The "Eke" referred to is used for giving space below frames in winter, thus conducing to the health of the bees. Then, having served this purpose, it may be reversed and set *over* frames in early spring for "tucking in" extra coverings above the brood cluster for warmth. It also enables a shallow-frame box to be converted into a standard size brood-chamber—in case of need—by setting it below.

[2093.] *Maple Sugar for Bee-Food.*—I am sending you a sample of pure, unrefined maple sugar (Canadian); it comes here in cakes about the size of a brick, weighing 3½ lb. to 4 lb. each. Would it be any good as bee food if I boil it for candy? or could I use it as it is, or do you think it would get too hard during the winter? Honey in this district is fairly plentiful, but *very* dark. I have about 2 cwt., and don't know what to do with it.—C. Wadland, *Exeter.*

Reply.—Sugar received, though very nice for use as a sweetmeat, is not at all suitable for bee-food. Indeed, for this purpose, and apart from natural honey, nothing equals pure, unrefined cane sugar.

Echoes from the Hives.

Honey Cott., Weston, August 13.—*Bees and Horses.*—There is a piece of ground adjoining my apiary in which the grass is mowed every year; but the man goes with the machine about break of day to do the job, while the bees are quiet. I always feel a relief when the hay has been carted away. We find veils for boys when they are making the hay. We are having nice weather now; bees very busy, but there is not much honey worth taking off for surplus, the only source being blackberries and a few stray heads of clover, except some plants of mellilot clover (which Mr. Wells gave me last autumn). This is visited by hundreds of bees.—John Walton.

Bletchley, Bucks, August 13.—I noticed the honey at our local flower show on August 1 (Bank Holiday), was all of a beautiful colour,

especially the extracted honey. No sign of honey-dew in it, though apple trees are badly blighted and the fruit small in consequence. My own honey is of first-rate colour and consistence, flavour simply delicious. July 28 and 29 were cold and wet; since then we have had the heaviest rain-storms I can remember for years, August 12 being the first really fine day since the 1st. Several of my stocks are driving out their drones for the third or fourth time this season.—A. H.

METEOROLOGICAL.

OBSERVATIONS TAKEN AT DUDDINGTON, STAMFORD, NORTHANTS, FOR THE WEEK ENDING AUG. 13, 1898.

1898.	Bar. in.	Tem. 9 am deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in.
Aug. 7....	29·80	52·5	58	47	11	52·2	·07
,, 8....	29·80	53·5	63	43	20	52·4	—
,, 9....	30·00	58·5	65	47	18	55·5	·13
,, 10....	30·05	53·5	68	46	22	56·3	·01
,, 11....	30·15	66·5	78	53	25	64·8	—
,, 12....	30·06	73·1	83	50	33	65·5	—
,, 13....	29·95	68·2	76	62	14	68·6	—
Means	29·97	60·8	70·1	49·7	20·4	59·3	*·21

* Total.

The week's rainfall = 4,750·83 gallons, or 21·21 tons to the acre, or 1·05 lb. to the square foot. For the week ending August 6, the mean temperature, viz., 62·0 deg., was +0·6 deg., and the rainfall, viz, 1·39 in., +0·76 in. The rainfall, January 2 to August 6, viz. 10·66 in., is −3·31 in. The mean temperature for June, viz., 56·4 deg., is −1·6 deg.; and the rainfall, viz., 0·87 in., −1·02 in.; and that, January 1 to June 30, viz., 8·41 in., −2·44 in. An inch of rain = 22,623 gallons, or 101 tons to the acre, or 5 lb. to the square foot.

FRED. COVENTRY.

Bee Shows to Come.

August 18 and 19, at Harrogate.—Knaresboro and District B.K.A. Show of Honey, in connection with the Harrogate Horticultural Society. Schedules from C. B. Elmhirst, Secretary K. & D.B.K.A., Farnham, Knaresboro'.

August 19, at Exeter (Devon B.K.A.).—In connection with the Devon and Exeter Horticultural Society. **Open Classes**, with liberal prizes, for six sections, and for six 1-lb. jars extracted honey, also for best exhibit of honey not exceeding 28 lb. Nine classes for members only.

August 24, in Neston Park, Wilts.—Honey exhibition in connection with the Atworth and District Horticultural Show. Seventeen classes with liberal prizes, including single 1-lb. jar and single section, with free entry. For particulars apply to J. P. Inkpen, Sec., Atworth, Melksham. **Entries close August 20.**

August 24, in the Town Gardens, Old Swindon.—Wilts B.K.A. County show in connection with the Horticultural Fête. **Four open classes.** Schedules from W. E. Burkitt, Hon. Sec., Buttermere Rectory, Hungerford. **Entries close August 18.**

August 27, at Windsor.—Windsor and District Branch, Berks B.K.A. Bee and Honey Exhibition, in connection with the Liberal Club Annual Flower Show. Schedules from J. Hyde, jun., Hon. Sec., 55, Bexley-street, Clewer. **Entries close August 18.**

August 31 and September 1, at Burslem, Staffs.—Annual Bee and Honey Show of the Staffs, B.K.A., in connection with the Staffordshire Agricultural Society. Sixteen classes for bees, hives, honey, and appliances. **Four open classes**, including class with three prizes for 1-lb. section, 1-lb. jar, and 4 oz. beeswax.

September 7 and 8. At the Cattle Market Derby.—Derbyshire B.K.A. Seventeenth Annual Exhibition of Bees, Honey, and Appliances, in conjunction with the Show of the Derbyshire Agricultural Society. Liberal prizes. **Eight open classes.** Schedules from F. Walker, Hon. Sec. D.B.K.A., 64, Gerard-street, Derby. **Entries close August 31.**

September 7 and 8, at Glasgow.—Honey Show of the Scottish Bee-Keepers' Association in connection with the exhibition of the Glasgow and West of Scotland Horticultural Association. Schedules from the secretary, John Cassels, Cadzow Buildings, Hamilton, N.B. **Entries close September 5.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column

W. T. J. (Farnborough).—Much obliged for your letter, which has been forwarded to the writer of 2090, p. 318.

R. H. K. (Lanarkshire).—*Transferring from Skeps to Frame-Hives.*—The end of August is too late in the season for any chance of bees transferring themselves from a skep by the method of placing the latter on top-bars of frames and letting the bees work down into the frame-hive. They will only do this in the early season when requiring room for the extension of the brood-nest. There are two alternatives, viz., to winter the bees in skep they now occupy and operate as above in spring of next year, or first driving the bees, then cutting out combs and tying them into the frames of new hive. Against the latter plan comes the fact of your being apparently an entire novice at such bee operations, and it is so easy for a beginner to make a failure that we don't advise trying it. Anyone who does not yet know how to feed bees can hardly hope to succeed at transferring combs. You should begin by procuring a book on bees where all operations are fully described.

J. G. (Garforth).—*Wild Bees.*—Bee sent belongs to the genus *Andrena.*

G. M.—*Smooth-grained Granulated Honey.*—The honey sent is a fairly good sample. The only peculiarity is the smoothness of its grain, which is most likely a result of the honey having been stirred with "mixing" perhaps.

HILGAY (Sussex).—*Uniting Bees.*—1 and 2. If alien stocks of bees are first sprayed with very thin scented syrup or sprinkled with flour, they will usually unite without quarrelling. 3. Leave the joined lots on same stand. Two or at most three lots of driven bees will be quite enough for one stock. 5. Leave queens to settle their differences themselves.

F. K. (Horsham).—*Re-queening Hives.*—1. First kill the old queen, now at head of the stock in frame-hive. Then, not less than

twenty-four hours later, drive the bees and queen from skep, and, when running them into the frame-hive, lift out combs of latter, one at a time, and shake the bees from frames on to the driven bees as they run in. 2. If you have the choice, select a cast or second swarm of this year. You will thus get a young queen.

S. E. (Farningham).—*Limnanthes Douglasii.*—This bee-plant delights in a dry, sunny situation. It is an annual of easy cultivation, and grows wild in California. Sow in early autumn to flower next spring.

D. F. J. (Broseley).—*Wax for Competition.*—To prepare wax for exhibition purposes the sample must be selected, and in most cases cappings alone are used. In rendering wax we prefer a properly made extractor. Wax from brood combs cannot be made equal in appearance to wax from cappings only.

G. M. S. (Keswick).—*Honey-Dew as Bee-Food.*—Honey-dew will do for bees to winter upon, whether from supers or brood-chambers.

F. S. L. S. (Long Stratton).—There is no disease in comb sent. We will reply to other matters next week.

P. E. M. (Roundhay).—*Cyprian Queens.*—We don't know the name and address of "a foreign dealer in Cyprian queens;" and as to "reliability" these bees are, we suppose, the most unreliable of any hive-bee known.

A. M. Marindin (Salop).—*Using Super-clearers.*—Your method of using is quite right. The extra hole at side covered by tin slide is for admitting bees to super from below when getting wet combs cleaned up after extracting.

E. Griffith (Knighton).—*Honey Buyers.*—The Rev. Mr. Handcock, of Hampton Hill, died over a year ago. But, apart from this, if honey is to be forwarded stamps for postage must be sent.

J. Adams (Dunfermline).—*Embedder for Wiring Foundation.*—The embedder forwarded was noticed in our pages some years ago, one having been kindly sent on by Messrs. Abbott Bros. for our inspection. Properly used, it answers very well.

W. B. W. (Torquay).—*Swarms not Breeding.*—Your second letter makes it tolerably certain that the queen which issued along with first or "prime" swarm has been lost at the time. The swarm therefore returned, to *re*-issue eight or ten days later headed by a young unmated queen, and this queen was unsuccessful in mating. This accounts for the drone brood in worker cells.

J. R. A. (Cardiff).—*Exhibiting Comb Honey in Bar-frames.*—According to words quoted, viz., "Bar-frame of this year's honey from schedule" a shallow-frame is perfectly eligible for the prize, as being a "bar frame" equally with one of standard size. The most usual exhibit at shows in this class is described in schedules as for "shallow-frames of comb honey," and in this case standard frames would be ineligible; but where the size is not specified both "standards" and "shallows" can compete.

R. W. H. (Wirral).—*Source of Honey.*—There was evidently some "privet" in bloom when honey as sample was gathered. Along with a little honey-dew, and between the two sources named, your white clover has been swamped to the great detriment of quality in the product.

W. P. (Ticehurst).—*Main "Points" in Judging Extracted Honey.*—1. Colour. 2. Consistency or density. 3. Flavour. 4. Aroma. Regarding the first-named point, it should be clear, bright, and of very pale golden colour.

D. C. (Croydon).—*Artificial Swarming by Beginners.*—The comb sent contained nothing worse than pollen gathered by the bees for nursing requirements. We must again impress the fact on correspondents the hopelessness of attempting to keep bees with any chance of success without first procuring a reliable guide-book on the subject and making themselves acquainted with its contents. To begin making artificial swarms and such operations without knowing anything about queen-mating or the difference between pollen and rotting larvæ dead from foul brood is a hopeless task. All the elementary information on bees and bee-management will be found in a good book on the subject, and should be sought for there rather than in our query column.

W. Dufosee (Wilts).—*Varieties of Heather.*—No. 1. is *Erica vulgaris*, or common ling (best for bees). No. 2 is *E. cinerea*, or bell-heather.

W. D. R. (Glais, Swansea).—*A Beginner's Queries*—1. It is more than probable that No. 2 hive has an unmated queen. There is seldom any use in putting racks of sections on hives from which first and second swarms have issued. It usually takes the bees all their time to repopulate the hive and gather food for winter, without yielding surplus the same year. 3. Don't extract unsealed honey; it can only be ripened on the hive by leaving it there till sealed over. 4. If the swarms and casts are doing so well as stated, and are found to be strong in bees and well stored with food at end of next month, there is no need for "uniting" or joining-up for winter unless a reduction of stocks is required.

B. C. A. (Bath).—*Coverings for Top-Bars Preserving and Introducing Queens.*—1. A better article for the purpose than that sent is "American cloth," using it enamelled side down, of course. 2. Queens cannot be preserved alive during winter except with a couple or three swarms of bees in a nucleus hive well protected from cold. 3. Do not risk introducing queens without caging till you have gained some experience of queens and bees.

Editorial, Notices, &c.

USEFUL HINTS.

(*Concluded from page* 321.)

There has been no diminution in the excessive heat which prevailed last week. True, more or less violent thunderstorms have cleared the air and given a delightful freshness to vegetation, but the weather of the last six days is reported as the highest this year. Reports still come in of honey being freely stored in some parts from second-crop red clover and from plants which in ordinary seasons would long ago have ceased to yield nectar. All this is so far satisfactory as reducing the sugar bills for autumn feeding, while in nearly all quarters the late crop is declared to be quite free from honey dew. Referring to the latter, we trust the many readers who have sent samples to this office for our opinion as to its quality, and asking us to "tell them how it can be disposed of," will believe us when we say that we are just as helpless as themselves in this matter. We have given all the information within our knowledge regarding honey dew, and it would be not only useless but rather wearisome reiteration to the great body of our readers to fill whole pages with our opinions as to honey and the probable resources from whence it was gathered. Luckily, a year of "blight" does not visit us often, but, bad as is the character justly given to 1898 as a honey year, we found it not nearly so black as it has been painted (by ourselves, too, among others). Only last week, at the two shows where we had the pleasure of judging, viz., Dover and Exeter, some splendid honey was shown—equal to anything met with in what are called good seasons. Judged by the earlier shows of the year, it was a complete surprise to such fine displays of produce. Moreover, it seems certain that a good crop of heather honey will gladden the hearts of moor-men this year if the present glorious weather holds out.

Dealing with Foul Brood.—1. We are very pleased to get a few words on this subject from so good a bee-man as Mr. John Berry, who on another page of this issue has responded to our invitation to give his experience of foulbrood. This he does in simple, but easily understood, words, which we hope will be taken to heart by all concerned. The method followed with such unfailing success is "not a new one." Moreover, Mr. Berry is honest enough not to claim it as his; in this he acts just as any one does who is right-minded; and so we leave it to speak for itself.

FIRE AT A HIVE FACTORY.

Readers of this journal will hear with regret that the extensive bee-hive factory of Messrs. T. B. Blow & Co., at Welwyn, which has for some years past been an interesting and familiar sight to travellers—especially if they were bee-keepers—on the Great Northern Railway, was completely destroyed by fire between six and seven o'clock on the evening of Thursday, the 18th inst. Seeing that accounts more or less exaggerated or inaccurate have appeared in the daily Press, we were glad to have a call from the proprietor, Mr. G. H. Taylor, and thus learn from himself a correct account of the disaster.

Mr. Taylor left the workshops—after seeing all workmen off the premises—along with a bee-keeping friend, and while they were having tea less than half an hour later at the proprietor's residence within the grounds, an alarm of fire was given, and Mr. Taylor had barely time to get into the office where his books are kept before the flames had travelled from the railway end, where the fire broke out, to the other end of the building, and the whole place was in a blaze. With so much dry wood stored, and of inflammable material—including about ten tons of beeswax—everywhere around, it may be imagined how soon the flames got so great a hold as to render it impossible to save anything. Nor did the hives of bees in the grounds outside escape, so rapidly did the conflagration spread; about forty fine colonies being literally roasted or burnt alive. The cottages occupied by the workmen shared the same fate, the occupants barely having time to save a portion of their household belongings from the front rooms, those at the back being on fire before the things could be got out, and one poor woman had her leg broken in the endeavour to save her furniture.

In less than an hour, Mr. Taylor says, there was not a stick of wood left unburnt, and so great was the heat that the ironwork of the machinery was bent and twisted in all directions; some of it being melted like lead. Fortunately the account books were saved.

A very large number of sections of comb-honey were destroyed, along with about ten tons of beeswax, which latter continued burning after everything else had been reduced to ashes.

Nothing like so serious a fire has occurred in connection with the bee-appliance trade in this country before, the damage amounting to several thousands of pounds in value of goods and property destroyed. Luckily the stock was insured, but not to anything like the full value, so Mr. Taylor's loss will be heavy. However, he has lost no time in securing temporary premises in which to get on with such orders as are left on hand; and about Christmas next he hopes to be at full work again in entirely new buildings built on the same foundations as before. For a young man with so large a venture on his hands the situation must be a trying one, and we hope readers who are customers will give him all the consideration due to one fighting against a heavy reverse.

KENT AND SUSSEX B.K.A.

ANNUAL SHOW AT DOVER.

The annual exhibition of the above Association was held in the College grounds, Dover, on the 17th and 18th inst., in conjunction with the Dover Floral Fête. Considering the adverse character of the past honey season, the show was well supported and eminently successful. The entries numbered 165, and, coming from all parts of the two counties, closely approximated to that of the Hastings show last year. The majority of the honey staged was in splendid condition, and, being shown in the commodious gymnasium building in the College grounds, with plenty of floral decorations, a most effective display was made. The authorities of the Dover Flower Show extended the utmost courtesy and consideration to the Beekeepers' Association, who, in return, did their best to add to the interest of the event by a good display. Visitors agree that the Association entirely succeeded in this object. There were a number of very interesting exhibits, one of "Close Relations of the Honey Bee," by Mr. Sladen, especially exciting attention. A capital photograph, taken this month, of a stock of bees (six combs) on a tree at Lullingstone, was shown by the Hon. Secretary. Mrs. Longhurst, of Longfield, was the most successful exhibitor, winning the silver medal, and Mr. W. J. Smith, of Shepherdswell, securing the bronze medal awarded by the B.B.K.A. Silver medals granted by the Kent and Sussex Association were won by Mr. F. Sladen, of Ripple Court, and Mrs. Longhurst.

In the grounds outside the honey exhibition the bee-tent of the K. and S. B.K.A. was erected, and the Association's expert, Mr. W. Herrod, gave lectures and demonstrations during the afternoon to large audiences. The aim of the Association is to spread abroad the advantages of beekeeping, and to improve the knowledge of manipulating bees so that a hive may produce a hundredweight of honey, while every parish should bring forth a ton.

Mr. W. Broughton Carr, London, and Mr. Ernest Walker, of Erith, Kent, judged the exhibits, and made the following awards :—

Observatory Hive with Bees (open).—1st, J. S. Greenhill, Wimbledon; 2nd, F. Sladen, Dover.

Twelve 1-*lb. Sections* (members only).—1st, Mrs. Longhurst, Longfield; 2nd, S. E. College, Wye; 3rd, S. Kendon, Sandhurst; v.h.c., G. Fairs, Mundham, and E. D. Till, Eynsford; c., Jesse Garratt, Meopham; and Rev. C. A. Stubbs, Westerham.

Twelve 1-*lb. Jars Extracted Honey* (members only).—1st, Mrs. Longhurst; 2nd, E. D. Till, 3rd, Wm. Robinson, Wye; v.h.c., Sir Stanley Edwardes, Farningham; M. Killner; J. M. Lord, Northiam; W. Smith, and Mrs. R. K. Cross, Slinfold; h.c., Rev. W. R. Nightingale, Worthing, and J. Jacobs, Shepherdswell; c., Eric Clark, Goudhurst, and W. Robinson, Wye.

Three Frames of Comb Honey (members only). — 1st, Mrs. Longhurst; 2nd, Wm. Smith; 3rd, G. Wells; v.h.c., Sir Stanley Edwardes; c., J. M. Lord and J. Garratt.

Twelve 1-*lb. Jars Extracted Honey* (open).—1st, Mrs. Longhurst; 2nd, H. Bates; 3rd, M. Killner; v.h.c., Rev. W. R. Nightingale; h.c., Eric Clarke.

Twelve 1-*lb. Sections* (open). — 1st, W. Woodley, Beedon, Newbury; 2nd, Mrs. Longhurst; 3rd, J. Garratt.

Display of Honey (open).—1st, Mrs, Longhurst; 2nd Wm. Smith; 3rd, J. Playford, Staplehurst.

COTTAGERS' CLASSES.

Six 1-*lb. Sections.*—1st, W. Loveday, Harlow; 2nd, W. Frost; 3rd, J. Burt.

Six 1-*lb. Jars Extracted Honey.*—1st, W. Loveday; 2nd, G. Fairs; 3rd, H. Dobell.

Super of Honey.—1st, W. Loveday.

Three Shallow-Frames of Honey.—1st, W. Loveday.

Single 1-*lb. Jar Extracted Honey* (open).—1st, Mrs. Longhurst; 2nd, Jesse Garratt; v.h.c., M. Killner and W. Robinson; h.c., J. Playford, G. C. Lyon, and W. Smith; c., W. J. Cork, Rev. W. R. Nightingale, and W. Loveday.

Single 1-*lb. Section* (open).—1st, Mrs. Longhurst; 2nd, Geo. Fairs; v.h.c., J. Garratt; h.c., S. E. Agricultural College, C. Coltham, Barham, and H. Crowther.

Beeswax (open).—1st, John Berry, Llanwrst; 2nd, Mrs. Longhurst; v.h.c., J. Jacobs and J. M. Lord; h.c., W. Robinson; c., W. Frost.

Honey - Vinegar and Mead (open).—1st, Mrs. Longhurst; 2nd, E. D. Till.

Collection of Appliances.—1st, Lee & Son; 2nd, J. S. Greenhill; 3rd, F. Sladen.

Frame-Hive (open).—1st, J. S. Greenhill, Wimbledon; 2nd, Lee & Son, Holborn; 3rd, Lanaway & Son, Redhill.

Frame-Hive (price not to exceed 10s.).—1st, J. S. Greenhill; 2nd, Lanaway; 3rd, Lee & Son.

The prizes were distributed by Lady Crun-

dall, in the presence of a large assemblage on the lawn, where a platform was erected. The Mayoress was accompanied by Sir William Crundall, and there were also present most of the committee of the show.—*Communicated.*

SHROPSHIRE B.K.A.

SHOW AT SHREWSBURY.

This Association, as in former years, held its annual exhibition of bees, honey, and appliances, in connection with the splendid show of the Shrewsbury Horticultural Society in the renowned "Quarry" at Shrewsbury on August 17 and 18. Upwards of 2,000 lb. of honey was staged, but the exhibition lost somewhat by comparison with those held in former years in consequence of the unfavourable season. Taking the season into consideration, however, the show was an exceedingly good one, some exhibits being of very high quality. Some excellent bee appliances and utensils were exhibited, and several very attractive honey trophies. The best of these, however (shown by Mr. R. A. Price, of Shrewsbury), was disqualified on account of paper being used to decorate the sections, contrary to the regulations issued.

Miss Eyton, as usual, was most assiduous as hon. sec., and Mr. J. Palmer, of Ludlow, brought his great experience to bear with excellent results in connection with the office of exhibition secretary. The duties of judging were undertaken by the Rev. T. J. Evans, Tarvin, Chester; Mr. W. Lees McClure, Prescot; and Mr. P. Scattergood, jun., Stapleford, Notts, their awards being as follows:—

HONEY CLASSES (OPEN).

Twenty-four 1-*lb. Sections.*—1st, J. Carver, Wellington; 2nd, S. Cartwright, Shawbury.

Twelve 1-*lb. Sections.*—1st, F. Chapman, Wells, Somerset; 2nd, W. J. Rendall, Winchcombe, Gloucester.

Twenty-four 1-*lb. Jars Extracted Honey.*—1st, S. Cartwright; 2nd, H. W. Wood, Lichfield; h.c., T. Simpson Jones, Welshpool.

Twelve 1-*lb. Jars Extracted Honey.*—1st, H. W. Seymour, Henley-on-Thames; 2nd, B. G. Brocklehurst, Ludlow.

Twenty-four 1-*lb. Jars Granulated Honey.*—1st, B. G. Brocklehurst; 2nd, F. W. Morris, Salop.

1-*lb. Samples of Extracted Honey Gathered from Different Flowers.*—1st, J. Bradley, Yockleton, Salop; 2nd, A. Beale, Moole Brace, Salop.

MEMBERS ONLY.

Twenty-four 1-*lb. Sections.*—1st, S. Cartwright; 2nd, P. Jones, Church Stretton.

Twelve 1-*lb. Sections.*—1st, R. A. Price, Shrewsbury; 2nd, Jesse Hammonds, Hope Bowdler; h.c., J. Carver.

Single One 1-*lb. Section.*—1st, S. Cartwright; 2nd, A. Hamer, Llandrillo Bridge, Carmarthenshire.

Twenty-four 1-*lb. Jars Extracted Honey.*—1st, S. Cartwright; 2nd, H. Wood; h.c., Miss Bullock, Craven Arms.

Twelve 1-*lb. Jars Extracted Honey.*—1st, R. A. Price, Shrewsbury; 2nd, S. Cartwright; h.c., G. Croxton.

Twenty-four lb. Dark Extracted Honey.—1st, P. Jones; 2nd and c., B. G. Brocklehurst; h.c., H. Wood.

Novelty in Honey or Wax.—1st, J. Bradley.

ARTISANS' CLASSES.

Twenty-four 1-*lb Sections.*—1st, P. Jones; 2nd, J. Carver.

Twelve 1-*lb. Sections.*—1st, E. Brookfield, Middle, Salop; 2nd, R. A. Price.

Twenty-four lb. of Extracted Honey.—1st, P. Graham, Montford; 2nd, P. Jones; h.c., F. Parton, Much Wenlock.

Super Comb Honey.—1st, E. Oakes, Benthall; 2nd, G. Clifft, Shrewsbury; h.c., J. Carver.

COTTAGERS' CLASSES.

Twelve 1-*lb. Sections.*—1st, Mrs. Powell, Cold Hatton; 2nd, G. Croxton, Hope Bowdler.

Twelve 1-*lb. Jars Extracted Honey.*—1st, E. Carver; 2nd, A. Ward, Shineton, Cressage.

Six 1-*lb. Sections.*—1st, E. Carver; 2nd, Mrs. C. Powell.

Six 1-*lb. Sections.*—1st, J. Jasper Jones, Church Stretton; 2nd, E. Carver; 3rd, Mrs. Powell.

Honey Cake.—1st, Mrs. Powell.

Single 1-*lb. Jar Extracted Honey.*—1st, G. Croxton; 2nd, E. Carver.

Single 1-*lb. Section.*—1st, Mrs. Powell; 2nd, J. S. Croxton, Hope Bowdler.

Honey Trophy (Open).—1st, J. Bradley; 2nd, A. Hamer.

HIVES AND APPLIANCES, &c. (open).

Frame-hive (*price not to exceed* 15*s.*).—1st, W. P. Meadows, Syston, Leicester; 2nd, G. H. Varty, Etwall, Derby; h.c., W. P Meadows; c., E. W. Davies, Wellington.

Frame-hive (*price unlimited*).—1st, W. P. Meadows; 2nd, G. H. Varty; h.c., E. W. Davies.

Collection of Appliances.—1st, W. P. Meadows; 2nd, G. H. Varty.

Honey Beverage.—1st, A. Hamer.

Beeswax (Salop only).—1st, E. Oakes.

Bee Flowers.—1st, J. Bradley.

BEES.

Observatory Hive, with Bees and Queen (Salop only).—1st, J. Carver; 2nd, R. A. Price.—(*Communicated.*)

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of July, 1898, was £1,293.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[3365.] The month of August has been phenomenal for the excessive "heat wave," which, measured by the thermometer, is still mountains high—the one at the back of my house on a north-west wall is ranging above 90 deg. The heat, however, suits our friends the farmers in garnering a cereal harvest of exceptional bulk. This, following on a good hay crop, ought to put them in a good humour; but the usual wail is now heard that with abundance comes low prices, and so it is we cannot be satisfied.

We have here a plague of wasps. They are everywhere; numerous traps are set for them in the apiary, yet they seem plentiful as ever, prowling from hive to hive intent on getting a stolen sip from the hard labours of the bees, whose work goes so far to relieve the bee-keeper from the expense and trouble of feeding.

The Season's Harvest.—Clearing hives of the surplus has made busy times for us, and, while the quantity is satisfactory, the finish is excellent. I never remember sections started late so well filled and sealed. The quality of the late-gathered honey, however, we cannot boast much of. Super-clearers enable one to clear surplus chambers of bees without hitch or disturbance of a colony; in fact, it inclines one to think that the old fighting qualities are bred out of the bees, if we contrast the quiet easy manner the "clearer" and the carbolised cloth enables the work to be done, compared with the old style of smoker and veil—brushing, shaking, and blowing. Then, when the single section was clear of bees, it was put into the box, the lid of which went down with a bang every time; and our section cappings were often perforated by the bees in their eagerness to get a final taste. Now the whole rack is removed without a single pinhole showing in the capping.

If this heat extends northward, our brethren in the craft will be having a good time with their bees at the moors and in heather districts.

The bee-keeper who has only flower-honey in reach should now bestir himself with preparations for the coming year, 1899. After the racks are removed examine the brood-nest, and see how its "contents" auger for the well-being of the colony. 1st. The queen should receive attention; age and prolificness being considered and dealt with according to circumstances. It is well to have a register in each hive giving these particulars. Again, in going carefully through the hive cut out all the old remains of queen-cells; by keeping the combs free of these, any re-queening by the bees themselves can generally be known to the bee-keeper, and the age of queen noted. The present is also a good time to re-queen colonies whose queens are getting old.

The contents of the combs, *i.e.*, amount of food, pollen, and brood, each require our attention; some colonies with a failing queen may have, for want of supering, clogged the brood-combs with honey to the exclusion of brood; this can be remedied by extracting two of the combs, putting them in centre of brood-nest, and giving half a pint of syrup for a few nights to start breeding. Then, if the quantity of honey is insufficient for the winter months, it should be augmented by rapid feeding, so that the food may be ripened and sealed over ere the cold weather comes. If some of the dark honey is given in lieu of sugar-syrup great care will be required to prevent robbing. Give food only in the evening, and if weather is very warm remove the feeder during the day, taking care that the quilts, &c., are well tucked down around the ends of frames, so that no bees can intrude; also reduce the entrances of hives.

Weak stocks, if healthy, will require not only a new queen but some bees to accompany her to re-establish the colony on a prosperous footing. These small swarms for uniting can generally be procured from neighbours who are taking up their straw skeps, but only queens from casts should be trusted to form the head of the colony. Those at head of first swarms may be already two or three years old.—W. Woodley, *Beedon, Newbury.*

DEALING WITH FOUL BROOD.

JOHN BERRY'S METHOD.

[3366.] In reply to your request in foot-note to 3353 (page 324) I am very pleased to tell all I know, but I don't think there is anything new in my method of treating foul brood. It is simply what has appeared many times over in B.B.J., viz., the *starving* system. In other words, it is treating bees as a swarm and giving them a change of queen. I may here tell you that I lost eighteen stocks in one spring from foul brood before I knew it was in my apiary, and have had as many as thirty hives affected at once! Many a time has it come home to me that no one is a *real* bee-keeper until he has a fight with foul brood. But at present I can truly say that my apiary is entirely clear of it, and that, too, without destroying a single colony. Several prominent bee-keepers and writers in your Journal who have been here this summer could testify

to this fact even by the strength of my bees to-day as showing their healthiness.

My mode of treatment is first to kill the queen; then wait for twenty-one days in order to secure all the young bees that would hatch out safely. I then give them a young queen from a healthy stock (first killing, of course, the young queen, if they have been successful in rearing one from their own eggs or larvæ). Next shake the bees off combs into a clean box and confine for about forty-eight hours. Then treat them as a swarm in a clean hive, feed on syrup medicated with naphthol beta, and put a few pieces of naphthaline in the hive. Sometimes I give queen-cells (just hatching) in twenty-one days instead of a young queen, treating them as a swarm as soon as the queen is hatched out.

After confining the bees I extract all the honey from old combs and then examine the combs closely. If very bad they are either melted down into wax or burnt, as found best. If only an odd cell here and there is found, I cut these out and spray the comb with No. 9 recipe (in "Guide Book"), half-teaspoonful soluble phenyl to one quart of water. I then use these combs as supers for the heather which when filled are *pressed* to get out the honey, and melted into wax. I don't burn anything about hives but the quilts. The hives and frames are boiled for four or five hours in big vats, about two yards square, which I can get the use of any day at the place where I am working daily. I always keep a sharp look out for foul brood in handling every frame.

I don't write this as claiming any merit for myself, as there is nothing new in it, and you can make use of it or not, as you think best; but as you have invited me to write I should be sorry indeed not to cheerfully comply with your request.—Jno. Berry, *Llanwrst, Aug.* 20.

BEE STINGS.

MEDICAL OPINION.

[3367.] A correspondent in your issue of July 28 asks for a course of treatment for bee-stings from medical readers. Having had some little experience in the treatment of bee-stings inflicted upon myself and friends, if you can find space I should like to give you a few observations upon the same.

The general idea that the mischief resulting from a bee-sting is due to the formic acid contained in the poison may, I think, be dismissed as erroneous, as the same amount of formic acid injected experimentally produces practically no effect at all; we must, therefore, look further for the really active agent, and this probably consists of some organic product of bee life analogous to the alkaloids found in certain plants, very minute quantities of which produces intensely irritating effects; take, for instance, the alkaloid aconitia found in monkshood, or some of the garden varieties of primula.

It is a well-known fact that individuals vary greatly as regards their reaction to the effect of poisons, the majority of people showing what may be called an average reaction, a few showing must less, and still fewer showing much more than the average reaction, the latter having what is known as an idiosyncrasy for that particular poison. It is also a well-known fact that the repeated action of many poisons tends to make the subject less and less affected, so that at last a greater or lesser tolerance is established; this holds good in the case of the poison of the bee-sting, and hence individuals after being stung a certain number of times become "bee-proof." Where subjects have an idiosyncrasy to any poison there is often general constitutional disturbance in addition to the local effects, and this is frequently manifested by rashes, itching, and uncomfortable sensations, as described by your correspondent.

An ordinary bee-sting in a person fairly susceptible generally takes the following course:—At the seat of the sting there is more or less intense pain, lasting five or ten minutes or perhaps longer, and frequently a small localised swelling appears immediately; upon the cessation of the pain there is generally itching and stiffness, and at times considerable numbness of the part. The effects beyond this are those which are simply due to localised inflammation, and they vary with the part affected. If it be a part where the skin is dense and the surrounding parts are firm, as the scalp, there is little local disturbance; but if, on the other hand, the sting be inflicted upon a part where the skin is thin and covers loose tissues, such as the cheeks or eyelids, there is generally considerable local disturbance and swelling.

Looking at these facts the following is the treatment which appears to be the most rational as it is certainly the most efficacious:—The sting should be extracted with as little pinching as possible, care being taken not to squeeze the poison bag; this is best done with the point of a pocket-knife or a fine pair of tweezers. The application of ammonia is useless as a neutraliser of the formic acid, since it is practically certain that the latter does not alone cause the mischief, and, in addition, ammonia in itself is an irritant and probably makes bad worse. All rubbing should be avoided, as not only tending to disseminate the poison, but also causing determination of blood to the part, which is in itself harmful. If much swelling ensues, a lotion, consisting of methylated spirits and water in equal parts, should be applied to the part by a piece of lint kept saturated with it. If the sting is on the hands or arms, putting the injured part in a sling gives great comfort; if on the lower extremity the legs should be kept in the horizontal position as much as possible.

An antidote to the poison probably exists in the form of some other alkaloid the product of either animal or vegetable life, and this fact may account for the relief which is said to be

given in a number of cases by the application of different herbs, the commonest one being the common large-leaved plantain : Were the active principles of these plants obtained in a concentrated form we might have our antidote to the poison of the bee-sting.

I would like to end up with an enquiry : Is it a common fact that bee-stings are more severe during the height of the honey flow, when bee life is most active and metabolism goes on at a greater pace, than they are at the beginning and end of the season, when the bees are rousing up from or settling down for the winter? In my own case and in others stings are more painful whilst the bees are in full work than at other times.—J. H. S., *Wells, Somerset, August* 18.

HORSES STUNG BY BEES.

THE GEDLING DISASTER.

[3368.] I beg to enclose 2s. 6d. to above fund from Mr. H. J. Raven, Notts. I take it from what appears in the B.B.J. of August 11, that an impression exists—so far as our Notts people—that they are not doing much to help this case. Will you kindly allow me to state that a list for subscriptions was sent by Mr. McKinnon to most of our members who have subscribed to the fund in this way.

Mr. McKinnon has received only six of these lists back as yet, but to show that the Notts members *are* doing something, I may say these six amount to about £8, and as it seems to be the opinion that sufficient funds will be available to meet the owner's loss, the list might therefore be closed.—GEO. HAYES, Hon. Sec., Notts B.K.A., *Beeston, August* 19.

[In thanking Mr. Hayes for the information conveyed in the above communication, we shall express the sentiments of all readers in saying how gratifying is the news that Notts bee-keepers have (to use Mr. Till's words on p. 326) not been backward in "rising to *this* occasion."

It is most satisfactory to know that no loss will be incurred by the owner of the unfortunate animals, even if the names of the donors are not allowed to appear in our pages. Regarding the date of closing *our* list, we will communicate with the treasurer of the fund, and then decide as to the best course to pursue in the matter.—EDS.]

EXAMINATIONS FOR CERTIFICATES,

AND WHAT THEY MAY INVOLVE.

[3369.] An examination—held on behalf of the B.B.K.A.—for Third-Class Expert Certificates last week took me to Bridport, where I was most hospitably entertained by another of our most enthusiastic and capable lady bee-keepers—Mrs. Watson, of Bothenhampton Vicarage. Whilst taking the first candidate I discovered foul brood in an advanced stage in first one and then the other of the two skeps provided for driving, one skep being queenless. Having broken the bad news to Mrs. Watson (who is also Hon. Sec. of the West Dorset B.K.A.), she at once made up her mind to destroy the "borrowed" bees—combs and all—as foul brood was hitherto reported unknown (?) in that district ; she undertaking all responsibility.

At about nine o'clock we proceeded to the extermination of this "most self-asserting enemy." We were joined by several of the younger members of the family, and with paraffin, sulphur, and sundry other necessary articles we commenced to burn the whole skeps, just as they stood on their stands, having, of course, previously stifled the bees with sulphur fumes.

This task occupied us for quite a long time, but in the end everything connected with the condemned bees had been cremated. These two fires threw a splendid light, which not only illumined the darkness around, and attracted many of the *Noctuidæ*—one of which, a very fine specimen, I was fortunate enough to "net"—but also one of the genus *Homo*, who came in breathless anxiety to see if the house were on fire ! We thanked him for his kind act, but advised him to retire ere his "wings got singed." Thus ended a rather memorable "examination." — R. HAMLYN HARRIS, F.E.S., *Hambrook, near Bristol.*

A QUEENLESS SWARM.

[3370.] The following incident in my experience which happened recently may be interesting to some of your younger readers :— Possessing only one stock hive, I wished to have in reserve a young queen at hand if required in an emergency, as I never encourage swarms. I therefore bought from a neighbouring bee-keeper a second swarm which had issued from his own hive about six weeks ago. No doubt the seller thought it all right, and for a few days it evidently had been so. The frames had small pieces of foundation very insecurely fixed in them before the swarm was hived. However, before I had the bees more than a day or two, I came to the conclusion that the stock was queenless, and I have repeatedly examined it since to assure myself of the fact. I found four or five frames of comb more or less started, but none much more than half built out. There was also a very large proportion of drone comb ; in fact, there seemed to be almost as many drones as workers. All these had been very recently hatched, and at the time of my first examination none had gone out. There was no worker brood, not a single egg, and no uncapped cells. The cells not occupied with drone brood were well filled with syrup, which I had given, and perhaps altogether there might be eight or ten square inches of capped cells with honey in them. I found at the bottom edge of one of the combs a single queen cell. It was evidently built on

drone comb, and the bees had, no doubt, tried to raise a queen from a drone egg. But whatever kind of bee had occupied the cell, it had escaped at the bottom, as a good queen always does when not interfered with, in which case the aperture is found at the side. I have been considering what has caused this result. I have a sheet of glass over the passage-ways leading to the entrances of my hives, and I can watch at my leisure what takes place at the outer entrance. It was soon seen that the drones in this hive are numerous, but even at date of writing only a few are coming outside. The worker bees met them much as a couple of sheep do when fighting; they ran head first against them, and seemed to inquire of them whether they are their own drones. Occasionally, however, they worry them as worker bees generally do with drones in the autumn, while now and again they feed them. The workers bring in some pollen, though there is not a single uncapped grub in the hive. When this hvie first came it was put close to, and with the intention of uniting the bees to, a strong hive adjoining. The two entrances were about 16 in. apart, separated by a board with a slide. I soon found out, however, that this slide had a hole in it, which one bee could get through at a time. The strong bees "next door" took advantage of this passage-way, and there was some fighting in consequence. I therefore replaced the faulty slide with one covered with fine-hole perforated zinc. There has been no fighting since. I suspect the bees had a young queen to begin with, but she had gone out on her wedding trip and failed to get safe back home. For the first few days the young swarm had built worker combs; then having lost their queen, had attempted to replace her, building a cell on drone-comb, and with an egg laid by a fertile worker. These bees are very quiet. Several bee-keepers have been here to inspect the stock, and are much interested in what they could see and understand.—An Old Bee-Keeper, *Ecclefechan, N.B.*

A WORD FOR "BAD FOUNDATION."

[3371.] I think it is only right that I should write to say a word in defence of "bad foundation." I was offered several pounds of foundation (super) which was said to be bad and had been refused by bees. It was several years old, quite white and stiff. I accepted it, and used it all for sections with the best of results; and got a fair sample of honey, as far as weight per section is concerned, though very dark, being in a thickly-wooded part. None was refused. I find in most cases when bee-keepers complain of bad foundation, bees not entering supers, that they either expect too much from a backward stock, or that the rack is not put on snug enough, and that the innocent bee gets the blame. I have not had much trouble with swarms this season, only three stocks swarming out of over thirty. The season has been a most remarkable one all through, there being no early honey weather, and when the season did open in earnest the cold winds came and shut it off, and when it returned we only got honey well mixed with honey dew of very poor colour right up to July 21. Then we had a much-needed rain which washed the leaves, so that racks put on on July 23 had a very fair sample, but not in large quantities, as they never worked as keen as they do earlier on. The bees on the moors also seem very loth to work, and don't seem to enter sections very well, but there is plenty of time yet.—C. B. E., *Farnham, Knaresborough, August* 22.

HORSES STUNG BY BEES AT GEDLING, NOTTS.

COMPENSATION FUND.

Subscriptions received this week:—

C. A. P. (co. Kerry)	£0	10	0
W. Scatchard (Chesterfield)	0	5	0
H. J. Raven (Notts)	0	2	6
A Sympathiser (Devon)	0	2	6
J. Valentine (Collooney)	0	2	6
J. Lomas (Foleshill)	0	2	6
Rev. T. J. Evans (Chester)	0	2	6
Five Cottagers (Kidderminster)	0	2	6
A Sympathiser (Woodlands, Kent)	0	2	6
W. W. Prior (Welwyn)	0	1	6
J. Pearman (Derby)	0	1	0
H. Sayers, jun. (Surbiton)	0	1	0
H. T. M. (Saltash)	0	1	0

METEOROLOGICAL.

Observations taken at Duddington, Stamford, Northants, for the Week ending Aug. 20, 1898.

1898.	Bar. in.	Tem. 9 am deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in.
Aug. 14....	30·00	73·0	81	60	21	69·9	—
,, 15....	30·05	65·9	77	58	19	66·9	1·06
,, 16....	30·00	60·9	70	57	13	63·1	—
,, 17....	30·12	59·2	74	57	17	65·0	—
,, 18....	30·19	63·0	76	49	27	61·7	—
,, 19....	30·10	63·8	76	54	22	64·3	·02
,, 20....	30·14	65·0	77	58	19	66·9	—
Means	30·09	64·4	75·9	56·1	19·7	65·4	*1·08

* Total.

Distant thunderstorms, accompanied by torrential rain, occurred during the night of the 15th; the forked lightning was vivid; a heavy thunderstorm, accompanied by a drenching rain, passed over the village at midnight. The rainfall during the night, viz., 1·06 in. = 23,980·38 gallons, or 107·08 tons, to the acre, or 5·3 lb. to the square foot. Distant thunderstorms occurred between one and two, and eight and nine o'clock p.m., on the 19th. During the heat wave period, viz., August 11 to 17, the mean maxima were 77·0; mean minima, 56·7; mean temperature, 66·2. For the week ending August 13, the mean temperature, viz., 59·3 was −1·9, and the rainfall, viz., ·21 in., was −·38 in. The rainfall, July 31 to August 13, viz. 1·60 in., is +·38 in.; and that January 2 to August 13, viz., 10·87 in., is

–3·69 in. The week's rainfall, viz., 1·08 in.=24,432·84 gallons, or 109·08 tons to the acre, or 5·4 lb. to the square foot.

FRED. COVENTRY.

RESULTS OF METEOROLOGICAL OBSERVATIONS TAKEN AT DUDDINGTON, STAMFORD, NORTHANTS.

JUNE, 1898.

Barometers.

Highest, 30·29 in., on the 14th.
Lowest, 29·42 in., on the 25th.
Range, 0·87 in.
Average Height, 29·94 in.

Thermometers.

Highest Max. Shade Temp., 74 deg. on the 20th.
Lowest Max. Shade Temp., 53 deg. on the 13th.
Highest Min. Shade Temp., 59 deg. on the 21st.
Lowest Min. Shade Temp., 37 deg. on the 1st and 15th.
Range, 37 deg.
Highest Shade Temp. at 9 a.m., 65·8 deg. on the 21st.
Lowest Shade Temp. at 9 a.m., 47·8 deg. on the 14th.
Highest Mean Daily Temp., 65·0 deg. on the 21st.
Lowest Mean Daily Temp., 45·4 deg. on the 1st.
Mean of Highest Daily Readings, 65·5 deg.
Mean of Lowest Daily Readings, 47·3 deg.
Mean of Daily Range of Temp., 18·2 deg.
Mean Temp. for the Month, 56·4 deg.
Mean of Dry Bulb Readings, 58·9 deg.
Mean of Wet Bulb Readings, 54·9 deg.
Mean Vapour Tension, 0·400 in.
Mean Relation Humidity (saturation=100), 83.
Mean Temp. of the Dew Point, 52·4 deg.

Rainfall.

No. of Days on which ·01 in. or more fell, 11.
Greatest Fall in twenty-four hours, 0·20 in., on the 27th.
Total Fall in the Month, 0·87 in.
Total Fall, January 1 to June 30, 8·41 in.

FRED. COVENTRY.

Echoes from the Hives.

Chichester, Aug. 22.—My strongest colonies are still getting honey from second-cut red clover (I will send you a sample of red clover honey in a few days). Sections and frames returned a fortnight ago for the bees to clean are again filled and sealed over—at least, some are. This is more than I expected, as the sections are without dividers. Late swarms have also done well. Last autumn I introduced a Ligurian queen to one of my stocks, and this hive has given me the largest returns—I think I ought to say double. As my average will be about 16 lb., and the Ligurian colony over 40 lb. I occasionally see one of the Ligurians quite at home in the other hives near. The farthest away that I saw one was eleven yards, with eight hives between. I know they mix when swarming, but this hive is not a swarm. On removing supers, I find a slight trace of the "enemy" again in three hives. Two I shall sulphur, but the third has at present only two cells affected. I am thankful to say I have no honeydew.—G. F.

Queries and Replies.

[2094.] *Dealing with Foul Brood.*—I think my experience of the above must be interesting if not unique. Last summer all my five hives were affected with foul brood and smelling badly. I sent you a sample of comb and you duly declared it to be foul brood of a mild type. I then destroyed not more than three of the worst combs and used naphthaline freely; nothing else. In the autumn I robbed the whole lot of almost every ounce of honey, but although I kept a sharp look out for all remains of the pest, I could not find half a dozen affected cells in the whole lot! This year I have had two or three hives smelling a little, and on extracting found several combs rather freely spotted with the pest. I medicated the food given last autumn. Can you account for it?—H. T. M., *Saltash, Cornwall, August* 20.

REPLY.—We attach very little importance to smell when judging as to foul brood; and it is most misleading for any but experienced bee-keepers to be guided by odour. Readers are not seldom much alarmed by the suspicious "smell" coming from a healthy, vigorous colony when the bees are working on certain blossoms which yield nectar of peculiar odour; besides, it is quite common for hives to be badly affected with almost no perceptible smell coming from it. For the rest, our correspondent's experience, though interesting as detailed above, is by no means uncommon.

[2095.] *Wild Bees: Nomenclature.*—Can you assist me in naming the species in enclosed box? They were all taken in May here. (Conifers.)—1. The *Podalirius* ♂ was quite *pale* when first taken. 2. The two from Davos, in the Engadine, are sent me without any note. Are these the Continental species of *Apis mellifica*? If so, are they not very small? If you can help me in this, I shall be very grateful.—R. HAMLYN-HARRIS, *Hambrook, Bristol, August* 18.

[Our esteemed correspondent, Mr. F. Sladen, to whom the specimens were forwarded, sends the following:—"Referring to the various specimens as enumerated in box, I beg to reply as follows—(1) *Podalirius pilipes*, ♂ ♀, somewhat worn; (2) *Andrena nigroænea*, 2 ♂, 1 ♀; (3) *A. chrysosceles*, 4 ♀; (4) *A. rosæ*, ♀; (5)

A. fulvago, ♀ ; (6) *A. labialis*, ♂ ; (7) *A. Wilkella*, 2 ♂ ; (8) *Osmia rufa*, ♂ ; (9) *Apis mellifica*, 2 ♀, from Davos, Engadine. These specimens are a little smaller than, though quite as black as, any of our native honey-bees."—F. W. L. S., *Dover, August* 22.]

ROWLANDS CASTLE, HANTS.

TECHNICAL EDUCATION IN BEE-KEEPING.

The Hants County Council bee-van visited Rowlands Castle on July 18. At 6.30 p.m. Mr. Bellairs, secretary of the County Bee-keepers' Association, gave a demonstration of practical bee-work in a tent on the Green ; and at 9 p m. the same gentleman delivered a very interesting and instructive lecture, illustrated by lime-light views, entitled "Scientific Bee-keeping," which was much appreciated by a numerous and intelligent audience. Any bee-keepers wishing to become members of the local branch of the County Bee-keepers' Association, should give in their names at once to Mr. Geo. Rayment, the hon. sec.

Bee Shows to Come.

August 27, at Windsor.—Windsor and District Branch, Berks B.K.A. Bee and Honey Exhibition, in connection with the Liberal Club Annual Flower Show. Schedules from J. Hyde, jun., Hon. Sec., 55, Bexley-street, Clewer. **Entries closed.**

August 31 and September 1, at Burslem Staffs.—Annual Bee and Honey Show of the Staffs, B.K.A., in connection with the Staffordshire Agricultural Society. Sixteen classes for bees, hives, honey, and appliances **Four open classes,** including class with three prizes for 1-lb. section, 1-lb. jar, and 4 oz. beeswax.

September 7 and 8. At the Cattle Market, Derby.—Derbyshire B.K.A. Seventeenth Annual Exhibition of Bees, Honey, and Appliances, in conjunction with the Show of the Derbyshire Agricultural Society. Liberal prizes. **Eight open classes.** Schedules from F. Walker, Hon. Sec. D.B.K.A., 64, Gerard-street, Derby. **Entries close August 31.**

September 7 and 8, at Glasgow.—Honey Show of the Scottish Bee-Keepers' Association in connection with the exhibition of the Glasgow and West of Scotland Horticultural Association. Schedules from the secretary, John Cassels, Cadzow Buildings, Hamilton, N.B. **Entries close September 5.**

October 1 to 8, at the Agricultural Hall, London.—Honey Exhibition in connection with the Third International Exhibition of the Grocery and Kindred Trades. Classes (for Master Grocers only) for Sections and for Extracted Honey. (See advt. on p. v.)

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column

W. W. (Wellingborough).—*Wasp's Nest.*—The insect architect of the "structure" sent is one of the genus *Vespa* or common wasps, some of which build their nests in such places as hive-roofs, on the branches of bush fruit trees, and such like places.

"SWEET PEA" (Middlesex).—*Wild Bees: Nomenclature.*—The specimens are females of the Leaf-cutter Bee (*Megachile*). This bee is not at all distantly related to the Honey-bee ; but, as with almost all our wild bees, its habits of nesting are solitary. While bearing a general resemblance to a honey-bee, the two peculiarities of structure pointed out by our correspondent are quite sufficient to distinguish it therefrom. These are (1) the presence of the pollen-brush on the underside of the abdomen, and not on the legs, which latter are destitute of long hairs ; and (2) the largely developed head, which gives support to the two large and powerful mandibles. With these mandibles the Leaf-cutter bee saws little circles out of the leaves of trees, which it carries away to line its burrows with. The rosebush is often chosen for this purpose. The nest is generally made in an old post or a stump of a tree.—F. W. L. S.

S. BROOKS (Newton Abbott).—*Honeydew.*—Sample sent is a fairly good honey, and it is quite incorrect to call it honeydew. There is a slight tinge of the latter in it, but nothing more than to deteriorate its colour by darkening it.

Honey Samples :—

H. W. S. & Co. (Kilmarnock).—*Suspected Comb.*—1. The single unsealed cell contains pollen only. 2. We see no disease in rest of comb.

F. B. T. (Boston).—1. Combs contain decided foul brood, though not in a very advanced stage. For the rest, read Mr. Berry's letter on p. 334). 2. Honey must be very thick indeed if it cannot be got out with a good extractor. If it will not flow, there is only the alternative of pressing for cutting combs and "running" it before a warm fire.

W. P. (Birchfields, Birmingham).—See reply to "F. B. T."

H. J. G. (Kings Norton).—*Feeding Up.*—If weather is mild queens will lay until comparatively late in the season, and feeding up should therefore not be delayed because there is brood in the hive. Commence at once and feed rapidly till sufficient has been stored.

G. M. D. (St. Leonard's).—*Bee Parasites.*—The insect described is no doubt *Braula cœca* or blind louse. It is more of a nuisance than harmful to the bees.

J. J. C. (Swindon).—*Keeping Honey.*—1. Honey in sections if kept in a warm, dry place will remain in good condition for a long time. 2. Price of honey depends upon locality. 3. Feed driven bees on stick syrup made with refined cane sugar.

We are again compelled to hold over many communications, together with the "Homes of the Honey Bee" picture intended for insertion this week, through the "Reports of Shows," &c., occupying so much space.

Special Prepaid Advertisements.

Twelve words, Sixpence; for every additional Three words or under, One Penny.

FINE SELECTED ENGLISH QUEENS, tested, 5s. each, sent in introducing cage. W. WOODLEY, Beedon, near Newbury.

PROLIFIC QUEENS, 2s. 6d. each; Nuclei, Three Frames and Queen, 10s. 6d. E. WOODHAM, Clavering, Newport, Essex. W 75

HEALTHY DRIVEN BEES, 1s. 3d. lb., in 4-lb. or 5-lb. lots. Boxes to be returned, or 2s. extra. E. LONG, Fulbourne, Cambs. W 83

THOS. J. HORSLEY, has comfortable APARTMENTS for brother bee-keepers visiting the Isle of Man.—Merridale House, Empire-terrace, Douglas, Isle of Man. W 27

A FEW strong three-framed NUCLEI; young queens and plenty of bees, 12s. 6d. Cases returned. ALSFORD, Expert, Blandford.

WANTED, BLACK MINORCA PULLETS, true. Exchange Stocks of Bees in straw skeps. Guaranteed healthy. WOODS, Normandy, Guildford. W 98

FINE EXTRACTED HONEY FOR SALE, 57s. 6d. per cwt. Purchaser sends tins. Sample 3d. FORD, Burwell, Cambs. W 94

FOR SALE, about 1 cwt. of guaranteed pure EXTRACTED HONEY at 8d. lb. Sample free. RICHARD MERCER, Long-street, Atherstone. W 100

HEALTHY DRIVEN BEES, 1s. 3d. lb., '98 queens. Packed free. Order early. S. BAILEY, Itchingfield, near Horsham. X 3

FOR SALE.—SWARM of '98 in nearly new hive, well painted. Eleven frames, "W.B.C." ends, 21-lb. section-rack, complete, 25s. Cash returned if not approved of. JAS. BULLIVER, Tibenham, Long Stratton. X 1

DRIVEN BEES, with Young Queen, at 1s. 3d. lb. Box returned or charged 1s. Will quote for second swarms and young queens. E. GARNER, Broom, Biggleswade, Beds. W 99

QUEENS RAISED from imported Italian mothers, and mated to native drones, 5s. each. Produce Bees giving the best results. SALMON, Bee Expert, Hardwicke, Gloucester. W 93

QUEENS RAISED under most favourable conditions 5s. each, with introducing cage. Post free. Safe arrival guaranteed. Importer of foreign queens. Address, Rev. C. BRERETON, Pulborough, Sussex.

SMALL SWARMS with young fertile queens for building up or uniting to queenless stocks, 5s. 6d. case included, on rail. Fertile queens 3s. 9d. each, delivered. ALSFORD, Expert, Blandford.

LACE PAPER for GLAZING SECTIONS. 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. Neat Patterns. W. WOODLEY, Beedon, Newbury.

DRIVEN BEES, with Queen, at reduced prices. 4-lb. and 5-lb. single lots. Carriage paid. 1s. 2d. per lb.; 2 to 5 lbs. and upwards, carriage paid, 1s. 1d. per lb. OWEN BROWNING, King's Somborne, Stockbridge, Hants. W 95

"HONEY AND ITS USES." New edition, 1½d., 3s. 6d. per 100. "Mead, and How to Make It," 2½d. "Vinegar from Honey," 2½d. Sample bottle, 7½d. Rev. GERARD BANCKS, The Green, Dartford. W 97

WANTED, PURE LIGURIAN QUEEN, with Bees on Frames, in exchange for Single Frame Observatory Hive, or full-size one-frame Extractor. GEO. LEDGER, Weybridge.

WILL SELL for 20s. or Exchange for Fowls, Bees, Appliances, or Combs, Six-inch Circular Treadle Saw. Wood frame, heavy turned fly-wheel, finest steel spindles, anti-friction bearings. Last lifetime. Useful for hive making. CLAY, Albert-road, Wellington, Salop.

Prepaid Advertisements (*Continued*).

BRICE'S RELIABLE QUEENS. Well-known strain, one quality, one price. Mated tested Queen, 5s. 6d. Post free in my perfected travelling and introducing cage. Quality and safe arrival guaranteed. HENRY W. BRICE, Dale Park-road, Upper Norwood.

DAFFODILS. Fine home-grown bulbs. Per 100:—Sir Watkin, 10s.; Emperor, 15s.; Horsfieldi, 9s.; Barri Conspicuus, 10s.; Telamonius plenus, 2s. 6d.; Snowdrops, 1s. 6d.; Crocus, 1s. per 100. SANDS, Redhal, Worcestershire.

HEALTHY DRIVEN BEES, with young Queen, at 1s. 3d. per lb., not less than 4-lb. lots. Boxes to be returned, carriage paid. Also young Fertile Queens, at 2s. each. Free by post. R. BROWN, Flora Apiary, Somersham, Hunts. W 76

DRIVEN BEES, guaranteed healthy, 1898 queens, 1s. 3d. per lb. Swarm boxes returnable or charged 1s. 3d. Extra 1898 Queens, 2s. each, free by post. Address, S. OATEN, Expert, Glebe, Churchstanton, Honiton. W 90

FOR SALE, small complete APIARY, consisting of 3 "Wells" and 2 single frame-hives, fitted with lifts and shallow frames with drawn-out combs, bee house to take 10 stocks, "Guinea" extractor, rapid feeder, about 300 sections, &c. Foul brood unknown. For particulars address, ISHMAEL GIRLING, Leiston, Suffolk. Can be seen by appointment. W 96

BEES of my well-known strain, fine tested 1898 Fertile Queens, 3s. 6d. each, safe arrival guaranteed. Strong three-frame Nuclei with Queen, 12s. 6d., six-frame Stocks, 20s., eight-frame ditto, 22s. 6d. Bees, 1s. 6d. per lb. for 5 lb. lots and over. Queen included. Packages to be returned. Guaranteed healthy. WHITING, Valley Apiaries, Hundon, Clare, Suffolk. W 42

TO LECTURERS, &c.—Star Bi-unial lantern, best double condensers, double combination lenses, rack and pinion, safety jets, Maldon dissolving tap, Microscope, Aphengoscope, Kaleidoscope, and other fittings, all complete in travelling case and folding stand. Gas cylinder complete, and opaque roller screen in case and stand. Only £15 for the lot. May be seen in London. Apply to C., BEE JOURNAL Office, 17, King William-street, Strand, London, W.C.

THE SCOTTISH BEEKEEPER.

PUBLISHED FORTNIGHTLY. **3s. 3d.** per annum, Post free.

Send stamp for specimen copy of current number. It will please you.

WILLIAM ORMISTON,
BIGGAR, N.B.

SCREW-CAP HONEY BOTTLES.

ENGLISH MAKE.

16 oz. in bags of 10 doz., **12/9**; 7 oz. in bags of 6 doz., **7/-**. Packing free.

Sections, Weed Foundations, Hives, &c.

CARNETT BROS., 29, High St., ROTHERHAM.

W. R. GARNER,

Steam Hive & Appliance Factory, Dyke, Bourne.

All Goods of best quality at lowest possible prices. Very low terms quoted for goods to March 1st.

Catalogues Free.

Fine Photograph of a portion of a Comb affected with

FOUL BROOD,

TAKEN DIRECT FROM THE COMB BY

T. W. COWAN, F.L.S., &c.

Price One Shilling, Post Free.

Bee Journal Office, 17, King William-st., Strand, London.

Editorial, Notices, &c.

THE GROCERY TRADES' EXHIBITION.

A WORD TO BEE-KEEPERS.

The announcement made in our advertising pages—in this and last week's issues—is, to our mind, of such urgent interest to a large section of bee-keepers that there is some danger of its importance—so far as its immediate bearing upon the bee industry—being lost sight of. Not that business men will fail to see it at a glance, as the phrase goes, but a large majority of the best "workers" at our craft are labouring men who may not rise to the occasion, or, in other words, be able to see what possible good will accrue to them, as individuals, by inducing the nearest suitable tradesman within reach to exhibit and win prizes with *his* (the bee-man's) honey. We put the matter in homely terms advisedly in order to meet what probably will be the first impression of not a few who read these lines. Those we address will, however, not occupy much time in seeing the *point* once it is put before them, and it is this: All who have the true interests of British bee-keeping at heart, and who wish to extend the industry by honourable and unselfish methods, realise the fact that our mainstay in the effort to attain success is associated effort. Not each man working for his own ends, but all labouring for the good of the greatest number. This is most effectually done by joining the County Bee-Association, and thus striving as a unit of an associated body of bee-keepers, whose object is to promote and foster the sale of British honey by popularising the use of the native product on the British breakfast table.

Pre-supposing then that we are agreed on this point, no right-minded man can fail to see how important it is to secure the co-operation and the good will of those to whom we must look as the distributors of our produce. To work out a successful business scheme on proper lines there must be two parties to the bargain, viz., the producer and the distributor of the honey when harvested. The difficulty hitherto experienced by the bee-keeper who secures a few cwts. of honey—beyond what can be sold to neighbours or used at home—is to find a market for the bulk of his harvest. We read of our American brethren in the craft accomplishing wonderful and very amusing feats in the way of "peddling" honey, such as "hustling" around leaving tempting samples of their honey at every house. Then, on a given day, loading up the "buggy" and carting off a ton or so of the real article which is traded with for cash or "kind" according to the means and needs of customers; the seller carrying home in exchange for his harvest of honey, cash, live stock—the latter including pigs, ducks, fowls, and (in one case a bull-pup!)—together with eggs, butter, &c. All this has been recorded in our own journals as interesting and amusing reading; but where is the good of recommending such methods here? They are altogether unsuited to the habits and customs of our people, and would not work with us if tried. The question, therefore, resolves itself into one of how best to carry out the object by means of our bee associations; using the county honey label, and by getting into direct touch with the tradesman who cares to sell British honey across his counter.

If we have made the position clear so far, it only remains for us to offer a word of advice to bee-keepers by way of urging them to take the matter up promptly, and bring the subject properly before the notice of suitable tradesmen who are master grocers. Those of our readers who have good honey to dispose of should take this number of the BEE JOURNAL in their hands along with a sample of their best produce to the most suitable tradesman, and fully explain what the schedule means, viz., that the grocer buys the best honey he can and—after duly making an entry—exhibits it with the object of winning one of the valuable prizes offered. The only proviso being that it is the product of 1898 and genuine British honey. The bee-keeper does not appear at all; but should the grocer secure a prize, why, that bee-man secures a customer for so long as he continues to serve the tradesman well.

We are assured by the Managing Director of the coming Exhibition that grocers in many parts of the country have already expressed the heartiest approval of the new idea, and willingness

to cordially assist in working it out to a successful issue. It therefore only remains for our own people to do the rest, and we are much mistaken if they do not show their good sense by losing no time in doing it.

DEVON BEE-KEEPERS' ASSOCIATION.

ANNUAL SHOW AT EXETER.

The first annual exhibition of the Devon B.K.A. was held at Exeter on August 19, in conjunction with that of the Devon and Exeter Horticultural Society, and we have the pleasure of recording a complete all-round success. Colonel Walker (the President), Mr. Tolson, the Hon. Sec., Mr. Jacomb-Hood, and others on the executive committee worked hard to make the show arrangements complete, and we can personally testify to the success of their efforts.

We regret that our limited space prevents detailed criticism of the various exhibits; but, as a whole, they were excellent. Indeed, in a season when show "reports" nearly all begin by an apology for the exhibits on account of the "poor season," it may be said of the honey staged at Exeter that a very large proportion of the exhibits were of remarkably good quality. Mr. W. Broughton Carr (who was appointed to judge the exhibits) sought and secured the valuable help of Colonel Walker in making the awards. Mr. Carr also conducted an examination for third class certificates of the B.B.K.A., at Hillscourt Lodge, in the apiary of Mr. J. W. Jacomb-Hood, eight candidates presenting themselves for examination.

PRIZE LIST.

MEMBERS' CLASSES.

Twelve 1-lb. Sections (18 *entries*).—1st, John Trebble, South Molton; 2nd, John Seldon, Umberleigh; 3rd, E. E. Scholefield, Bickington; h.c., Revd. W. F. Adey, Kingsbridge; h.c., Mrs. H. H. Woosnam, Bickington; c., Mrs. Brealey, Sampford-Courtenay.

Three Frames of Comb Honey (10 *entries*).—1st, John Seldon; equal 2nd, John Trebble, and Annie M. Lawson, Budleigh Salterton; h.c., Revd. F. W. Toms, Coombe Martin; c., W. R. Brown, Exeter.

Single 1-lb. Section (20 *entries*).—1st, Herbert Patey, Chillington; 2nd, John Seldon; 3rd, E. E. Scholefield; 4th, John Trebble; v.h.c., Mrs. H. H. Woosnam; h.c., A. W. Barker, Cockington, and M. A. Phillips, Kenton; c., Col. E. M. Woodcock, Colyford.

Twelve 1-lb. Jars Extracted Honey (24 *entries*).—1st and 2nd, Mrs. H. H. Woosnam; 3rd, E. E. Scholefield; v.h.c., John Seldon, A. Godsland, Bovey Tracey, and Herbert Patey; h.c., Annie M. Lawson; c., John Trebble.

Beeswax (17 *entries*).—1st, Mrs. H. H. Woosnam; 2nd, E. E. Scholefield; v.h.c., T. H. Burgess, Exeter.

Honey Trophy (2 *entries*)—1st, John Seldon; v.h.c., J. W. Jacomb-Hood, Exeter.

Observatory Hive (5 *entries*).—1st, E. E. Scholefield; v.h.c., J. W. Jacomb-Hood.

Collection of Bee Appliances (2 *entries*).—1st, John Trebble; h.c., T. H. Burgess.

Hive made by Amateur (8 *entries*).—1st and 2nd, W. R. Brown, Exeter.

OPEN CLASSES.

Six 1-lb. Sections (14 *entries*).—1st, John Seldon, ; 2nd, A. O. Trebble, South Molton; v.h.c., E. E. Scholefield and G. B. Govett, Tideford, St. Germans; c., G. Addison, Kennford, and W. R. Beer, Kingsbridge.

Six 1-lb. Jars Extracted Honey (22 *entries*). 1st, Mrs. H. H. Woosnam; 2nd, E. Warren, Tavistock; v.h.c., E. E. Scholefield; E. Warren; and Mrs. M. Seldon, Umberleigh; h.c., J. Hookway, Wellington; and Miss Macalister, Bampton.

Display of Honey (6 *entries*).—1st, John Seldon; 2nd, E. E. Scholefield; h.c., W. B. Jones, Broad Clyst; and Mrs. M. Seldon.

The President's Champion Prize.—John Seldon, Umberleigh.

BIGGAR BEE-KEEPERS' ASSOCIATION HONEY SHOW.

The sixth annual exhibition of honey, bees, and appliances was held on Thursday, August 18, in connection with that of the Biggar Farmers' Club. Favoured by beautiful weather there was a large attendance of visitors, over 6,000 passing the turnstiles.

The honey tent attracted a fair amount of attention, although the number of visitors to it did not quite come up to the expectation of the committee. In view of the adverse clover season the display of honey was large.

A new feature for this district was the amount of dark honey staged, but in common with many other districts we have had a large share of the honey dew plague. The first-class honey staged all came from districts where there are few trees.

The entries numbered 130, nearly all of which were staged. Mr. Dunn, of Caprington, Kilmarnock, judged the exhibits and made the following awards:—

Twelve 1-lb. Sections.—1st, Jas. G. Renton, Crawfordjohn; 2nd, Robt. Somerville, Coulter Shaw; 3rd, John Clark, Liberton.

Six 1-lb. Sections.—1st, J. G. Renton; 2nd, Alexander Clarkson, Skirling Mill, 3rd, Wm. Ormiston, Biggar.

Single 1-lb. Section.—1st, Alexander Clarkson; 2nd, Andrew Boa, Biggar; 3rd, John Clark.

Six 2-lb. Sections.—1st, Wm. Ormiston; 2nd, Andrew Boa.

Super of Honey (not over 7 lb.)—1st, John Clark; 2nd, Wm. Ormiston; 3rd, Michael Rae, Biggar.

Super of Honey (not over 12 lb.).—1st, John Clark; 2nd, R. W. Clarkson, Cormiston Cottage; 3rd, M. Rae.

Super of Honey (not over 20 lb.).—1st, John Clark; 2nd, John Lawson, Stane.

Design in Honey Comb.—1st, Walter Rae, Biggar; 2nd, John Clark.

Twelve 1-lb. Jars Extracted Honey.—1st, J. G. Renton; 2nd, John Clark; 3rd, G. C. Murray, Cornwath.

Six 1-lb. Jars Extracted Honey.—1st, J. G. Renton; 2nd, G. C. Murray; 3rd, John Clark.

Six 2-lb. Jars Extracted Honey.—1st, J. G. Renton; 2nd, Wm. Ormiston.

Six 1-lb. Jars Granulated Honey.—1st, James Brown, Carstairs; 2nd, W. Rae; 3rd, Andrew Boa.

Display of Honey.—1st, John Clark; 2nd, M. Rae.

Three 1-lb. Sections.—1st, Alex. Clarkson; 2nd, R. C. Smith, Biggar; 3rd, Jas. H. Wybar, Ellsridgehill.

Three 1-lb. Jars Extracted Honey.—1st, Jas. H. Wybad; 2nd, James Aitken, Wiston; 3rd, John Lawson.

Super of Honey (not over 8 lb.).—1st, John Lawson.

Beeswax.—1st, John Tweedie, Biggar Park; 2nd, John Clark; 3rd, W. Rae.

Honey Cake.—1st, Mary Boa, Biggar; 2nd, May Rae, Biggar; 3rd, Mrs. Brown, Carstairs.

Observatory Hive.—1st, Wm. Ormiston; 2nd, John Clark; 3rd, M. Rae.

Most Complete Outfit for a Beginner in Bee-keeping. Price not to exceed 30s.—1st, Wm. Ormiston; 2nd, Andrew Boa.

Special: Super not over 8 lb.—1st, John Clark; 2nd, John Lawson; 3rd, Robt. W. Clarkson.—(*Communicated.*)

WILTS BEE-KEEPERS' ASSOCIATION.

The county show was held at Swindon in connection with the Horticultural Fête on August 24. The weather was all that could be desired and the attendance large. The exhibits covered three tables in a 40 ft. tent, at one end of which was the net screen and manipulating tent. Many intending exhibitors, being from home, were unable to send their honey; others refrained on account of honey-dew; and nearly all the cottagers were too much occupied with harvest work. The show, nevertheless, was a very attractive one, and secured the commendation of the judges: Mr. R. Hamlyn-Harris, appointed by E.B.K.A., and Mr. E. W. Goddard, of Newbury, appointed by Wilts B.K.A.; Mr. Hamlyn-Harris judging alone in classes one and two.

AWARDS.

MEMBERS ONLY.

Exhibit of Honey not exceeding 80 lb.—1st, S. W. Filtness, Swindon.

Twelve 1-lb. Sections.—1st, S. W. Filtness; 2nd, W. E. Burkitt, Buttermere; 3rd, G. F. Gauntlett, Collingbourne.

Twelve 1-lb. Jars Extracted Honey.—1st, W. E. Burkitt; 2nd, S. W. Filtness; 3rd, E. C. R. White, Romsey.

Six 1-lb. Sections.—1st, S. W. Filtness; 2nd, C. Boxall, Swindon; 3rd, J. Wentworth, Beckhampton.

Six 1-lb. Jars Extracted Honey.—1st, E. C. R. White; 2nd, W. Head, Pewsey; 3rd, W. E. Burkitt; h.c., S. W. Filtness; c., J. Wentworth.

Beeswax.—1st, W. Tucker.

OPEN CLASSES.

Twenty-four 1-lb. Sections.—No entry.

Twenty-four 1-lb. Jars Extracted Honey.—1st, J. Wentworth; 2nd, E. C. R. White; 3rd, S. W. Filtness.

Beeswax.—1st, S. W. Filtness; 2nd, W. E. Burkitt.

Single 1-lb. Section.—1st, F. Chapman, Wells, Somerset; 2nd, S. W. Filtness; 3rd, C. Clack, Blunsdon.

Single 1-lb. Jar Extracted Honey.—1st, H. F. Beale, Andover; 2nd, W. R. Billing, Elsworth; 3rd, J. Peckett, Wakefield; h.c., S. W. Filtness.

Observatory Hive with Bees and Queen.—1st, S. W. Filtness; 2nd, W. E. Burkitt.

Mead.—1st, E. Barter, Bishopstone.

Honey Vinegar.—1st, J. H. Stagg, Wroughton.

Mr. Burkitt was ably assisted in the bee-tent by Messrs. Boxall, Filtness, and Gilbert. —(*Communicated.*)

BEE AND HONEY SHOW

AT NESTON PARK, WILTS.

An exhibition of bees and honey was held on August 24 at Neston Park, Wilts, in connection with the annual show of the Atworth and District Horticultural Society. Owing to the unfavourable season, the honey staged was not up to the mark, and plainly showed that Wilts had been visited by the "blight" of honey-dew, several prizes being withheld for want of merit.

Mr. R. Hamlyn-Harris judged the honey exhibits, and made the following awards:—

PRIZE LIST.

Observatory Hive with Queen and Bees.—1st, H. Frankham; 2nd, J. W. Spencer.

Twelve 1-lb. Sections.—1st, T. Clark; 2nd, H. Frankham.

Six 1-lb. Sections.—1st, J. W. Spencer; 2nd, F. Davis; 3rd, R. Fuller.

Twelve 1-lb. Jars Extracted Honey.—1st, T. Clark; 2nd, R. Fuller; 3rd, H. Frankham.

Six 1-lb. Jars Extracted Honey.—1st, J. W. Spencer; 2nd, F. Davis; 3rd, R. Fuller.

Honey Trophy.—1st, H. Frankham.

Super of Honey.—1st, T. Clark.

Shallow-Frame of Comb Honey.—1st, J. W. Spencer ; 2nd, H. Frankham.

Honey in Comb, any form, above 4 lb.—1st, H. Frankham ; 2nd, J. W. Spencer.

Single 1-lb. Jar Extracted Honey.—1st, W. R. Billing, Cambridge ; 2nd, W. Patchett, Caistor ; 3rd, J. Peckett, Wakefield.

2 lb. of Wax, in any form.—1st, H. Frankham.

Single 1-lb. Section Honey.—2nd, F. Davis ; 3rd, H. Frankham.

Greatest Number of Queen Wasps.—1st, F. Rogers ; 2nd, F. May.

Three 1-lb. Jars and Three 1-lb. Sections (special prize, members of Mr. Spencer's bee class only).—1st, F. Davis ; 2nd, W. Daniel.

MEMBERS OF THE W.B.C.B.K.A. ONLY.

Design in Beeswax.—3rd, T. Clark.

Three 1-lb. Jars Extracted Honey.—1st, F. Davis ; 2nd, W. Daniel.

Three 1-lb. Sections.—1st, F. Davis ; 2nd, W. Daniel.

Mr. J. W. Spencer, the hon. sec. of the Wilts Border Co-operative Bee-Keepers' Association, exhibited a number of "non-swarming" hives and up-to-date bee appliances.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

HONEY-DEW: WHAT IS IT?

[3372.] Might I be allowed to give a few quotations bearing on this article, in which you pat Mr. Aphis on the back and say he is not so black as he is painted, or as he paints the honey? I, for my part, wish him the worst of ill luck, and cannot find a tar-brush black enough to daub him with. I should be sorry to reckon up how much honey he has spoilt for me, and how much has been stored undiluted honey-dew, as I have not added it up, but an immense quantity, and *none* which I consider fit to sell or eat at home ; and, really, as regards the selling of honey-dew, it does not seem fair to the general public to sell it as honey—which it is not. If it is sold at all it should be labelled "honey-dew," as one bee-keeper in this district is doing, much to her credit. One is not allowed to sell margarine as butter. I have heard of numerous complaints, and it is only to be expected that it does the bee industry harm. I would mention that Messrs. Aphidæ are rampant here both in trees and on flowers ; one cannot go a bicycle ride without getting one's eyes filled with them.

A. J. Root : "This substance is *not always sweet* to the taste, but usually so." "I must prefer to give them (the aphidæ) the whole of the credit for this kind of honey" (but he goes on to admit that, at times, the leaves of plants exude honey).

Rev. J. G. Wood says the aphis sucks the juice by means of its beak, and says that the cuckoo spit, or frog hopper, belonging to the same order, is analagous to it in the froth it forms. (It is fortunate that the bees do not fill sections with cuckoo spit !)

Cheshire : "Ordinary honey-dew is now universally conceded to be the product of the aphis." "I saw falling in the sunlight, a thick constant shower of minute drops which were being expelled from the *anal apertures* and nectaries of the aphides infesting the leaves."

Messrs. Kirby & Spence in their work on entomology : "Issues in limpid drops from the abdomen of these insects, not only by the *ordinary passage*, but also by two setiform tubes, &c." "Their suckers being inserted in the tender bark, employed in absorbing the sap."

Gaston Bonnier, "Les Nectaires," Professor Ecole Normale Supérieure of Paris : "The excremental liquid of aphides is not equally sweet in all the species." "They do not produce exudations, *but bore the tissues* to eat the contents." "The excretion, more or less sweet, sometimes *containing very little sugar*, abundantly produced by a great number of aphides."

The above quotations (rather disjointed, I am afraid) give some claim to the excreta theory. The ejectments varying in sweetness might tend to appear as though the juices were more fully digested in some cases than in others. Also whence come the black opaque particles held in suspension in the honey-dew, if not excreta? Then the aphis sucks the juice *by digging its beak into* the leaves ; it *does not collect honey-dew off the surface*, and, further, honey-dew of the kind that exudes from leaves seems to be comparatively *rare*. — GEORGE M. SAUNDERS, *Keswick, August* 16.

[We are quite well acquainted with the authorities quoted and are perfectly aware that opinions are divided as to the source. We, however, believe with those who think it generally to be an exudation from the pores of leaves, under certain atmospheric conditions, as Bonnier's recent remarks have shown, although it may sometimes be produced by aphides. We have on several occasions examined trees producing honey-dew in abundance, that were free from insects. At Hohwald, in Alsace, we spent some time watching bees collecting honey-dew from the conifers, but found hardly any insects. This year we have seen lime trees from which the

(*Continued on page* 346.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Mr. John Cotterill, a part of whose well-ordered apiary forms our bee-garden picture this week, is proprietor of a hydropathic establishment at Bowdon, near Altrincham, and—although he can hardly yet be called elderly—has been a bee-keeper for over forty years. We have had the pleasure of his personal acquaintance for many years, and he is one of our oldest readers. The apiary from which the photo was taken occupies the lower part of the grounds attached to "Malvern House"—by which name the place is known

MR. JOHN COTTERILL'S APIARY, BOWDON, CHESHIRE.

—and quite away from the pleasure grounds appropriated to visitors. Mr. Cotterill is one of those bee-keepers who get not only pleasure but profit from the bees, disposing of his surplus honey each season without more effort than attends anything needing selling. He was also for many years an active member of the Executive Committee of the local Bee-keepers' Association, and a well-known prize winner at shows held in the county of Cheshire. Writing in response to our request for a few particulars of his past bee experiences, Mr. Cotterill says :—

"My apiary contains thirty-six hives, about twenty being seen in the photo. The hives are of different forms, but all contain standard frames and are interchangeable. A little behind the hives on the right in picture is our extracting room and another store-room for general appliances.

"The lady seen in the foreground has been for some years resident in my establishment, and though quite new to the art of bee-keeping on first coming here, has proved a most apt scholar, and is now, to all intents and purposes, "an expert"—taking great and continued delight and interest in all bee work for some time past.

"I have kept bees over forty years. My first stock—bought when I was but a youth—cost me 16s., the result of many months of saved up pence and halfpence, and as years go by I am as fond of the "busy bee" workers as ever. You know something of my "bee doings" in past years as a former resident in Cheshire, and how often we have met in the old days, you as judge myself as exhibitor. My greatest take from one hive in one season was 177 lb., and from a neighbouring hive 160 lb. was taken the same year. Of course, we have good and bad seasons here, but I have never been discouraged, and I must say my bees have paid me well. I have never had any difficulty in disposing of my honey or wax at what I consider remunerative prices."

It was refreshing to visit Bowdon, as we did in '97, and find our friend—after his forty years of bee-keeping—"fond of the bees as ever," and, regarding the young lady shown in the picture, she is one who—with means and leisure—works the season through in the apiary for sheer love of it. We congratulate Mr. Cotterill on his "honorary" co-worker and wish them continued delight "among the bees."

CORRESPONDENCE.

(*Continued from page* 344.)

sweet liquid was falling in drops and yet very few insects were found. This condition, as Bonnier has shown, can be produced artificially. When insects are present no doubt a certain amount of *fæces* (ejected from the anal opening) gets mixed with the sweet liquid and this would account for the solid particles you allude to. We have specimens of excellent flavour quite free from any admixture of fæcal matter. We quite agree with you that honey-dew should be labelled as such and not sold as honey. It would take up more space than we can at present spare to go into the physiology of the subject and to show in what way the chemical analysis differs from that of nectar and honey, and its behaviour with the polariscope. Suffice it to say that honey-dew contains 20 per cent. of grape sugar and 30 per cent. of cane sugar.

As for our "patting Mr. Aphis on the back," if our correspondent chooses to regard our remarks as tending that way we cannot help it, but our intention was and is to remove from the minds of uninformed readers the idea of honey-dew being "excreta" pure and simple.—EDS.]

BEES AND HORSES.

[3373.] Bees may become dangerous to animals, as your different correspondents' letters in the late BEE JOURNALS show; but in every such case it is either ignorance of the bees' character or accidents.

In 1889, whilst moving bees from Jaffa to Bethlehem, the distance being too long to march with camels in two nights, we forced each morning march further than sunrise, and we had bitterly to repent. The warning of the first morning ought to have been sufficient, as my brother and myself were stung by hundreds of furious bees, rushing out from the hives strewn about on the plain. We had to toil all that day, and by sunset got everything in proper order. Again the night-march through the mountains of Judæa began. By sunrise we happily passed the gates of Jerusalem through the early crowds, but only half alive; we had to go at least a few miles beyond. Happily, the terrible blow about to follow happened in a lonely road. The last camel of a string of thirteen was bitten by a fly, and advanced to rub the place at the hives carried by the fore-camel. In less time than it takes to write this, the shock of the hives of the two camels brought out streams of angry bees; eleven camels could walk off very swiftly, but the last two, being assailed, kicked about, and rolled, till we ran up and cut the ropes, strewing the hives, sixteen in number, on the road. The camels were punished with several dozen stings on the head; a fortnight's repose put their camelships into proper position. But the horse and donkey which we rode had to be abandoned hurriedly; and, instead of running away as the camels did, they galloped up to the hives, and the horse galloped past; but the donkey thought the boxes a good place to rub away the bees, and was attacked still more furiously. All my efforts to get him away were vain; the pain and poison lamed him, and in three or four hours he died.

A few days later, a man, having been sufficiently warned of the dangers of journeying by day, was quietly leading his camel and riding on his donkey; the camel slipped and threw down the bees and saddle—happily for him, as thus he could escape at once; yet the animals were attacked by the bees, and fled for their lives. As it was near a mountain-top, they were soon out of bee-view; the donkey fled to the next village, and happily at once received the attention of my brother. The camel was less speedy, and received a great many stings as he was striking about with his long neck. Whilst I was looking for the man, a Bethlehemite came running to tell me a man was badly stung by bees, and was dying on his land, and that he would be very glad to get rid of him. I sent for a bottle of cognac, and rubbed the man's bald head, which, together with his eyebrows, was full of stings. I actually scratched away the stings, which came off by the dozen. The man being a bee-keeper himself, seemed poison-proof. I also gave him cognac to drink, which has the effect of repulsing poison of snakes and insects when taken inwardly. After this rough treatment the man recovered, and was glad to hear his animals also were in good condition.

We learned thereby never to move bees after sunrise. If an accident happens in the night, the bees remain around the hive, and will be quieted down after an hour or so, whilst in daytime it takes them many hours to settle down, besides being very dangerous for the passers-by. As a rule, bees dislike the smell of animals, more especially dogs and horses; they also hate to see quick movements. Horses when whisking their tails, or birds flying across the apiary, are also subject to the bees' attacks.

Bee-keepers should, therefore, be very careful not to exhibit their bees to view without protection. The slightest fence, bush, or wall that causes the bees to fly upward stops them from rushing at the supposed enemy. As they are obliged to fly up, they neglect

lower obstacles and movements, and in consequence are of no danger.

The above fatal accidents only prove that they are to be handled with care, and are absolutely tame, if not coaxed.—Pil. J. Baldensperger, *Nice, August* 15.

HONEY-DEW.

[3374.] We are very grateful to you for telling us (in your leader of August 4) that this substance is not of the character of excreta, but is rather analogous to the milk of higher animals. Can you, or any of your naturalist friends, inform me what purpose this secretion serves in the economy of the aphis itself, or its progeny? We know that ants (as well as bees) devour it eagerly, and even milk them like cows; but do their own young profit by it? J. G. Wood ("Insects at Home," p. 543) says that these, as soon as they are born, plunge their beak into the tender bark and begin sucking the sap. Does this honey-dew assist them in any way in doing this, whether by softening the cuticle of the leaf or otherwise? It is difficult to think that nature has provided this secretion solely for the benefit of insects of other genera.—C. C. J., *Wortham Rectory, August* 25.

[We will deal with this next week.—Eds.]

DESTROYING WASPS.

[3375.] In reply to 3365, page 334, the following is the best way to be rid of wasps:—Procure 1 oz. potassium cyanide (which is a deadly poison) broken up into small crystals. Tie an old egg-spoon on to the end of a stick, and having filled the spoon with the cyanide, tip it down at the mouth of the hole where the wasps enter. The poison should be damped when deposited at the mouth of the nest; and it will be found that the wasps inside die at once, and those returning come out no more.

To prevent the young grubs from hatching out, the nest should be dug out the next day and destroyed. By this means I have destroyed several hundred nests.—J. M. Bellairs, *Wingfield, Christchurch, August* 27.

[We add a word of caution as to dealing with so dangerous a poison as cyanide of potassium by other than careful persons.—Eds.]

BEES AND BEE-KEEPING IN INDIA.

[3376.] I have been asked to reply to Query No. 3362 (page 327).

From what is stated it appears that *Ghaloxi* is the local native name for one or other of the varieties of *Apis mellifica*, which is the only species of honey-bee found above an elevation of about 2,000 ft. It is probably not the very small yellow variety known as *indica*, this being generally found only in the plains. The "hill-bees" are larger and darker than var. *indica*, but most likely their size and colouring varies in different districts. In the neighbourhood of Darjeeling (Eastern Himalayas) the width of the cells in their comb is six-sevenths that of the cells of our English bees. It is said that the honey-bees found in some parts of Kashmir are even larger than ours.

Around Darjeeling these "hill-bees" are called "*mowrie*." *Apis dorsata*, which is quite common during a part of the year in the dense jungle at the foot of the hills, extending also to the lower altitudes of the southern slopes, seems to be denoted by the word "*cargoo*." On mentioning this word to the hill-men, all the information I generally got out of them was a shudder. But "*Modumachee*" (= honey-fly) seemed to be the most generally accepted name for the honey-bee throughout Bengal.—F. W. L. Sladen, *Ripple Court, Ringwould, Dover.*

BUCKWEED HONEY.

[3377.] The letter of your South African correspondent (3364, p. 327) is extremely interesting, and one could wish that bee-keepers who are abroad would more often contribute to the columns of the B.B.J. Would it be too much to ask for a small sample pot of buckweed honey? I would gladly pay its cost and carriage.

Your correspondent in Minorca some time ago kindly sent a sample jar of honey collected from the giant sainfoin. I keep it as a specimen. The flavour has a taste of quince in it, quite different from our sainfoin honey here.

Your Egyptian, South American, Syrian, and Minorcan correspondents have been long silent. Why?—E. D. Till, *August* 20.

DARK HONEY.

HOW TO DISPOSE OF IT.

[3378.] The prevalence of "honey-dew" seems to be pretty general all over the country; and from reports in the B.B.J. and *Record* it would seem that a good many are at a loss to know what to do with it. Allow me to make a suggestion to those who have taken this dark honey in quantity. Let them make it known to the poorer classes in their neighbourhood that they are prepared to give them a treat, and dispose of this dark honey at threepence per pound (I venture to say this is as much as it is worth), and I have no doubt in a short time the whole of this dark honey would be disposed of. I have taken 6 cwt. of this honey (a sample of which I enclose you). My best "Wells" hive has given 111 lb., and the next best 100 lb. So you will see we have had a fair share in this part of Yorkshire. I am selling it as above, and have already disposed of 3 cwt. Certainly it is a bad price, but what can we do with such inferior honey? Nothing, but sell at an inferior price and feed the remainder back to the bees in the autumn. The latter system I am certain will pay well

Bees are just commencing on the heather here, and, with fine weather, we are hoping for a good harvest to equalise matters a little.—J. RYMER, *Levisham, Yorks, August* 15.

Echoes from the Hives.

Harlow, Essex, August 29. — The hot weather of the last two weeks has been helpful, not only to the bees in providing for winter, but also to us bee-keepers, as making a great difference in the amount of feeding which would otherwise have been necessary. It has also assisted in the finishing of supers only partly filled before it came and contributed to the beginning and finishing of others. Some bee-keepers who, to use the words of one of themselves, "let the bees take their chance," since becoming aware that the season was against them begin to see their mistake, while those who have kept their bees in good heart, come what may, now reap the full benefit of an interval of real bee weather at the end of a shady season. Some supers, unfinished and empty, were given to the strongest of my stocks at the commencement of the hot weather. The result, though not a large quantity of honey, is very satisfactory, and fully convinces me of the necessity for keeping the bees well in hand so as to be able to take advantage of an unexpected honey flow if it should come. Except for five days in mid-June, the honey here had been this year like our our neighbours across the water say our English weather is, "all samples," but both the honey gathered this month and the work of the bees has been really good, the honey being of exceptionally fine quality.—W. LOVEDAY.

Queries and Replies.

[2096.] In reference to your advice to "always return frames to the hives, after extracting, in the evening, and let them be placed in the same hives, and in the same position they filled before the honey was removed." As at present I have seventeen stocks, and am increasing them to a considerable number, the above proceeding would mean a lot of extra work, and at times might be inconvenient to do. So far I have gone mostly in for section honey. 1. Supposing one had 100 stocks, all run for extracted honey, the marking of the frames and crates would be a great labour. Is it absolutely necessary to return the frames to the same hives? 2. Also, is it not usual, in uncapping, to cut level with the frames? So why the same position in each hive? 3. In the rack of half-filled sections, given back to be cleaned out, do you also think it advisable to give them back to the same hives they came off? 4. I have read of bees fighting amongst themselves in a hive when fed with honey off another, and this may be your reason. I thought it only applied to honey given in a feeder. But even then you advise honey-dew (extracted from numerous hives) being fed back to the bees for the winter. Why will not this cause fighting? 5. In reference to feeding back honey-dew in a rapid feeder, what test is there for knowing how much water to put with it to make it of the right consistency?—G. M. S.

REPLY.—1. The advice given regarding returning frames to *same hives* was meant to apply in the first instance to the risk of foul brood being discovered in a stock subsequent to removal. As to the "absolute necessity," or otherwise, it is simply a matter for the bee-keeper who does not like brace-combs and wishes to avoid them. 2. Editorial remarks are intended to help the ordinary bee-keeper. We can ourselves secure straight combs; you may be equally able, but the great majority of readers are not so experienced, and it is for them we write. 3. Yes. 4. Not necessarily. 5. None beyond the common sense of the bee-keeper. In a word, the advice given in these pages is the outcome of the respective editors' practical experience; but it is perfectly open to those preferring different methods to discard such advice as they do not wish to follow. On the other hand, to give the "why and wherefore" of all we recommend would be only tedious reiteration for which we have not room in our pages.

[2097.] *Supers on Hives.*—About a month ago I placed a super on one of my hives, which latter appeared very strong in bees. However, until lately the bees refused to go up, but now the super is crowded with them, although but little work has been done. 1. Is it any use leaving the super on so late in the season? 2. If I remove it now will the comb and unsealed honey keep fit to return to the bees to finish off next season? My other hive has also been disappointing. The super on this one being about two-thirds fall, six weeks ago I put a second one under; since that time however from some cause (I suspect queenlessness) hardly any work has been done and the top super remains in much the same condition as it was in mid-July. 3. Kindly inform me if I should remove both supers? 4. Is unsealed honey in the comb fit to eat? 5. If the first hive referred to is queenless, is it too late for bees to raise a queen?—F. O. P., *Haverstock-hill, August* 23.

[REPLY.—1. Remove super at once if no surplus is being gathered. 2. Unsealed honey will not keep; so if there is still some left let the bees carry it down into brood-nest. To make them do this remove all quilts but one very thin one, so as to cool the super. 3. Yes, when the food referred to above is removed. 4. Yes, if eaten at once. 5. Yes.]

METEOROLOGICAL.

OBSERVATIONS TAKEN AT DUDDINGTON, STAMFORD, NORTHANTS, FOR THE WEEK ENDING AUG. 27, 1898.

1898.	Bar. in.	Tem. 9am deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in.
Aug. 21....	30·15	60·5	73	57	16	64·5	·03
,, 22....	29·99	68·3	83	58	25	69·8	—
,, 23....	29·99	67·9	77	56	21	65·9	—
,, 24....	30·16	59·2	67	50	17	58·0	—
,, 25....	30·22	61·5	71	51	20	60·4	—
,, 26....	30·06	63·3	70	48	22	58·3	·01
,, 27....	29·76	66·1	69	60	9	64·2	·11
Means	30·05	63·8	72·9	54·3	18·6	63·0	·15

* Total.

For the week ending August 20, the mean temperature, viz., 65°·4, was +4°·9; and the rainfall, viz., 1·08 in., +·47 in. The rainfall, July 31 to August 20, viz., 2·68 in., is +·85 in.; and that, January 2 to August 20, viz., 11·95 in., −3·22 in. The mean temperature for June, viz, 56°·4, is −1°·6. For the week ending August 27, the mean vapour tension is 0·508 in.; mean relative humidity (saturation =100), 85; mean temperature of the dew point, 59°·1. The week's rainfall, viz., ·15 in., =3,393·45 gallons, or 15·15 tons to the acre, or 12 oz. to the square foot.

FRED. COVENTRY.

DUDDINGTON, STAMFORD, NORTHANTS.

Rainfall, Jan. 2 to Aug. 20, 1898.

1898.	Rainfall, in.	Average, in.	Difference from Average, in.
Jan. 2-29	·81	1·79	− ·98
Jan. 30-Feb. 26....	·57	1·66	−1·09
Feb. 27-Mar. 26 ..	1·27	1·27	average
Mar. 27-April 30 ..	2·10	1·98	+ ·12
May 1-28	2·28	1·92	+ ·36
May 29-June 25 ..	1·04	1·89	− ·85
June 26-July 30 ..	1·20	2·83	−1·63
July 31-Aug. 20 ..	2·68	1·83	+ ·85
Total	11·95	15·17	−3·22

FRED COVENTRY.

Bee Shows to Come.

September 7 and 8. At the Cattle Market Derby.—Derbyshire B.K.A. Seventeenth Annual Exhibition of Bees, Honey, and Appliances, in conjunction with the Show of the Derbyshire Agricultural Society. Liberal prizes.

September 7 and 8, at Glasgow.—Honey Show of the Scottish Bee-Keepers' Association in connection with the exhibition of the Glasgow and West of Scotland Horticultural Association. Schedules from the secretary, John Cassels, Cadzow Buildings, Hamilton, N.B. **Entries close September 5.**

October 1 to 8, at the Agricultural Hall, London.—Honey Exhibition in connection with the Third International Exhibition of the Grocery and Kindred Trades. Classes (for Master Grocers only) for Sections and for Extracted Honey. (See advt. on p. iii.)

October 18 to 21, at the Agricultural Hall, London.—Show of Honey and Bee Products, in connection with the British Dairy Farmers' Association. Liberal prizes for honey, &c. Schedules from Wm. C. Young, Sec., 12, Hanover-square, London, W. **Entries close September 19.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column

We are requested by Mr. E. H. Taylor, the proprietor of Messrs. Blow & Co.'s hive factory at Welwyn, to express his sincere thanks for the sympathy shown by some hundreds of bee-keepers with him in the destruction of the factory by fire a few days ago. Not being able, he says, owing to heavy work on hand, in restoring order out of chaos, to reply to those who have written, he asks us to say this much in print, and adds, "I have now got started again, in our temporary premises, with a gas-engine and new saw-bench. So we are now enabled to execute orders again."

W. G. (Rustrick).—*Sugars for Bee Food.*—1. If samples sent are guaranteed to be pure cane, either will do very well for bee food. It would, of course, need an analysis to determine the purity or otherwise of the samples. 2. We have heard of house-leek as a remedy for bee stings, but don't know anything as to its efficacy for the purpose.

E. WALKER (Erith).—*Dairy Show Schedule.* No doubt the date (printed 1896 in Class 72) is a printer's error. It should be "1897 or any previous year."

J. O. G. (Mitchelstown).—*Syrup for Feeding Bees.—Re-queening.*—1. Use only cane sugar, as recommended in "Guide Book"; cane syrup is not suitable. 2. Yes, if the queen is removed from skep a new queen can be introduced after forty-eight hours.

W. HEAD (Herefordshire).—*Quality of Honey.*—Flavour and colour very good; consistency fairly good. It is from white clover. Quite fit for the show bench, but requires straining first to remove particles of wax.

W. D. R. (Swansea).—*Suspected Foul Brood.*—No trace of disease in comb sent. The brood is chilled though nearly matured. If bees are weak join them to another lot, preserving the best queen.

H. S, JUNR. (Chessington). — *Preparing Sections for Showing.*—1. Measurement of lace paper is taken from edge of section to outside of paper. 2. The test of width is the measure of comb-surface covered by lace paper. 3. The question of tasting section honey is entirely at the discretion of the judges. Experienced judges very rarely taste the honey in sections.

J. C. (Battle).—*Bee Parasites.*—Naphthaline in hive will go a long way to keep hives free from the parasite known as Braula cœca.

MORICE TOWN (Devonport).—Honey sample sent is very good.

*** *Several packages received are still unopened for want of time; they will be seen to for reply next week.*

Special Prepaid Advertisements.

Twelve words, Sixpence; for every additional Three words or under, One Penny.

WANTED, LARVÆ, COCOON, CHRYSALIS, and ADULT WAX MOTH. Price to HERROD, Swanley. X 7

HONEY JARS, 1-lb. screw-cap, 15s. per gross. JAS. DYSON, Stainforth, Doncaster. X 5

FOR SALE.—Three Stocks of BEES in bar-frame hives, all in good order. T. CHATER, 6, Blandford Cottages, Hinton-road, Wallington. X 15

QUEENS, a few young ones at 3s. 6d. each. Guaranteed healthy and fertile. A. SIMPSON, Mansfield-Woodhouse, Notts. X 4

FOR SALE.—Two strong healthy STOCKS in skeps. Also one mahogany Observatory Hive, 2 frames. DALE, Little Haywood, Stafford. X 10

HEALTHY DRIVEN BEES in lots of 4 to 5 lb. at 5s. 6d., box included. EATON, Pear-tree Green, Doddinghurst, Brentwood. X 12

FOR SALE, ½ ton EXTRACTED HONEY. What offers? Sample 4½d. T. PULLEN, Ramsbury, Hungerford. X 13

WANTED, HEALTHY DRIVEN BEES. Price and particulars to F. GREGORY, Dollis Brook, Church End, Finchley, N. X 9

FINE SELECTED ENGLISH QUEENS, tested, 5s. each, sent in introducing cage. W. WOODLEY, Beedon, near Newbury.

HEALTHY DRIVEN BEES, 1s. 3d. lb., in 4-lb. or 5-lb. lots. Boxes to be returned, or 2s. extra. E. LONG, Fulbourne, Cambs. W 83

THOS. J. HORSLEY, has comfortable APARTMENTS for brother bee-keepers visiting the Isle of Man.—Merridale House, Empire-terrace, Douglas, Isle of Man. W 27

A FEW strong three-framed NUCLEI; young queens and plenty of bees, 12s. 6d. Cases returned. ALSFORD, Expert, Blandford.

DRIVEN BEES, packed, 2s. 9d. per skep. Two skeps 4s. 9d. Young Fertilized Queen, 1s. 6d. Disease unknown. JOHN SOLE, 133, Sturton-street, Cambridge. X 8

TO BEE-KEEPERS WHO KEEP POULTRY. S. CRAWFORD has a few selected breeding pens of PURE-BRED POULTRY FOR SALE. Also 7 Field Spaniel Dogs. Ulster Apiary, Castlederg, Tyrone. X 6

OFFERS WANTED for 2 cwts. good quality EXTRACTED HONEY in purchaser's tins or 1-lb. tie-over bottles. ERNEST DAVIS, Great Bookham, Surrey. X 11

TO BE SOLD at once, owing to death of owner, 8 STOCKS of BEES in bar-framed hives, and a quantity of Bee Appliances. BRAMLEY, Westmill, Buntingford, Herts. X 14

FOR SALE, 10 STOCKS of BEES in frame hives, certified as being "in excellent condition and perfectly healthy." Address, G. PEARSON, Goodbury House, Woodlands, Kemsing, near Sevenoaks. X 16

WANTED, PURE LIGURIAN QUEEN, with Bees on Frames, in exchange for Single Frame Observatory Hive, or full-size one-frame Extractor. GEO. LEDGER, Weybridge.

DRIVEN BEES, with Young Queen, at 1s. 3d. lb. Box returned or charged 1s. Will quote for second swarms and young queens. E. GARNER, Broom, Biggleswade, Beds. W 99

QUEENS RAISED from imported Italian mothers, and mated to native drones, 5s. each. Produce Bees giving the best results. SALMON, Bee Expert, Hardwicke, Gloucester. W 93

QUEENS RAISED under most favourable conditions 5s. each, with introducing cage. Post free. Safe arrival guaranteed. Importer of foreign queens. Address, Rev. C. BREERETON, Pulborough, Sussex.

Prepaid Advertisements (*Continued*).

SMALL SWARMS with young fertile queens for building up or uniting to queenless stocks, 5s. 6d. case included, on rail. Fertile queens 3s. 9d. each, delivered. ALSFORD, Expert, Blandford.

LACE PAPER for GLAZING SECTIONS, in several neat patterns and colours (white, pink, and French grey). 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. W. WOODLEY, Beedon, Newbury.

PRELIMINARY NOTICE. Owner going abroad. TO BE SOLD at once, a fully-equipped APIARY with about 15 STOCKS of BEES. For full particulars apply, R. HAMLYN HARRIS, F.E.S., The Conifers, Hambrook, near Bristol.

BRICE'S RELIABLE QUEENS. Well-known strain, one quality, one price. Mated tested Queen, 5s. 6d. Post free in my perfected travelling and introducing cage. Quality and safe arrival guaranteed. HENRY W. BRICE, Dale Park-road, Upper Norwood.

DAFFODILS. Fine home-grown bulbs. Per 100:—Sir Watkin, 10s.; Emperor, 15s.; Horsfieldi, 9s.; Barri Conspicuus, 10s.; Telamonius plenus, 2s. 6d.; Snowdrops, 1s. 6d.; Crocus, 1s. per 100. SANDS, Rednal, Worcestershire.

HEALTHY DRIVEN BEES, with young Queen, at 1s. 3d. per lb., not less than 4-lb. lots. Boxes to be returned, carriage paid. Also young Fertile Queens, at 2s. each. Free by post. R. BROWN, Flora Apiary Somersham, Hunts. W 76

DRIVEN BEES, guaranteed healthy, 1898 queens, 1s. 3d. per lb. Swarm boxes returnable or charged 1s. 3d. Extra 1898 Queens, 2s. each, free by post. Address, S. OATEN, Expert, Glebe, Churchstanton, Honiton. W 90

BEES of my well-known strain, fine tested 1898 Fertile Queens, 3s. 6d. each, safe arrival guaranteed. Strong three-frame Nuclei with Queen, 10s. 6d. Bees, 1s. 3d. per lb. for 5 lb. lots and over. Queen included. Packages to be returned. Guaranteed healthy. WHITING, Valley Apiaries, Hundon, Clare, Suffolk. W 42

TO LECTURERS, &c.—Star Bi-unial lantern, best double condensers, double combination lenses, rack and pinion, safety jets, Maldon dissolving tap, Microscope, Aphengoscope, Kaleidoscope, and other fittings, all complete in travelling case and folding stand. Gas cylinder complete, and opaque roller screen in case. Only £15 for the lot. May be seen in London. Apply to C., BEE JOURNAL Office, 17, King William-street, Strand, London, W.C.

THE SCOTTISH BEEKEEPER.

PUBLISHED FORTNIGHTLY. **3s. 3d.** per annum, Post free.

Send stamp for specimen copy of current number. It will please you.

WILLIAM ORMISTON,
BIGGAR, N.B.

DAIRY SHOW, LONDON,

OCTOBER 18th, 19th. 20th, and 21st.

LIBERAL PRIZES for HONEY, &c.

REDUCED FEES TO MEMBERS B.B.K.A. and Members of Affiliated Societies.

ENTRIES CLOSE SEPTEMBER 19th.

WM. C. YOUNG, Secretary,
12, Hanover-square, London, W

Fine Photograph of a portion of a Comb affected with

FOUL BROOD,

TAKEN DIRECT FROM THE COMB BY

T. W. COWAN, F.L.S., &c.

Price One Shilling, Post Free.

Bee Journal Office, 17, King William-st., Strand, London

USEFUL HINTS.

WEATHER AND THE SEASON.—"Exceptionally high temperatures still prevail in all parts of the kingdom"—"Brilliant sunshine and summer warmth everywhere;" such are samples of the phrases in which to-day's weather reports are chronicled in the leading papers. Nor is there any exaggeration in the terms used; therefore, it is well to repeat them here, as matter of interest to bee-keepers for reference in the future. It is also certain that the present season has been one of the most extraordinary from the bee-keepers point of view in the memory of living man. It began full of promise; fruit-bloom and early bee-forage of all kinds being plentiful as the most expecting bee-man could desire. Then came that chilling, frost-bitten east wind, blowing continuously for about three weeks, and, of course, stopping all bee-work while it lasted. This was the first break-down of the season, only to be followed by a disappointing June in lieu of the steady warmth and sunshine which starts bees working as we know they can work in that month of clover bloom. Instead, we had the most tantalising weather imaginable for nearly the whole month; hardly two real bee-days in succession, and in consequence little nectar stored in the clover heads of "White Dutch."

We will not dwell on what followed in July except to say that it began well, and promised for a real honey month; but then came breakdown the second, and this time it was the quality, not quantity, of which the bee-keeper had sad enough cause to complain. In fact, the bees gathered enough and to spare, but the produce was what some of our readers have designated "vile stuff!" Well, we won't go too closely into the appropriateness or otherwise of the term—there being plenty of opinions regarding honey dew in our columns—but it certainly wasn't nice, and a very great quantity of what would have been good honey was spoiled by the dark stuff collected from the leaves of various trees during the first three weeks of July. A great many readers will remember it as affording their first sight of honey dew, and as having turned the usual product of a white clover district—where only pale yellow honey has been gathered for years, says one—into one yielding dark honey "unfit for showing."

We duly told of the numerous samples sent here, and almost in despair asked in print if there was any good honey of this year 1898? Then came a surprise in the form of a few beautiful samples sent as a ray of light to brighten the darkness, and it was proved that all was not lost. Following on this solid evidence of fact came the experience gained at two important shows held last month, where we had the pleasant task of adjudicating on some as good samples of honey as one could wish to see, and all gathered in '98.

The late gathering, therefore, is no doubt of very satisfactory quality, and for the "dark stuff" yielded so profusely in the first weeks of July that we recommend it being used as much as possible for bee-food, reserving the best of it for sale when granulated.

We take full responsibility for this course, notwithstanding the fact that some consider honey-dew unsuitable either for bee-food or for sale.

(*Hints continued next week.*)

STAFFORDSHIRE B.K.A.

ANNUAL SHOW AT BURSLEM.

The annual bee and honey show of the above association was held at Burslem on August 31 and September 1 in conjunction with that of the Staffordshire Agricultural Society, and the well-arranged apiarian exhibits were, as usual, a special source of attraction. In consequence of the adverse honey season of 1898, the regulation limiting certain exhibits to honey of the current season was withdrawn, consequently the bulk of the entries were for last year's produce. Such honey, however, as was gathered in 1898 showed in many cases unmistakable signs of honey dew.

The general arrangements for the bee-department of the show were ably carried out by Mr. E. Crisp, hon. sec. S.B.K.A., and Mr. R. Cock, bee expert of the County Council.

The Revs. J. F. Buckler, Bidston Rectory, and T. J. Evans, Tarvin Vicarage, undertook the duties of the judging; Mr. Buckler also conducting (on behalf of the B.B.K.A.) an examination of candidates for the third class certificates of the parent association, three candidates presenting themselves for examination.

Prize List.

Honey Trophy (*not over* 100 *lbs*).—1st, H. Wood, Lichfield; 2nd, J. Stone, Sudbury; equal 3rd, E. Clowes, Blackbrook, and W. J. Collier, Stafford; 5th, J. R. Crichlow, Newcastle.

Twelve 1lb. Sections.—1st, J. R. Crichlow; 2nd, H. Wood; 3rd, J. Stone; 4th, P. H. Rawson, Market Drayton; h.c., E. Clowes; c., J. Pellington, Stafford.

Six 1 lb. Sections.—1st, H. Wood; 2nd, J. Stone.

Twelve 1 lb. Jars Extracted Honey (light).—1st, P. H. Rawson; 2nd J. R. Crichlow; 3rd, H. Wood; v.h.c., W. J. Collie; h.c., W. H. Scarlett; c., J. Davies, Newport.

Twelve 1-lb. Jars Extracted Honey (dark).—1st, H. Wood; 2nd, E. W. Jackson, Milton; 3rd, S. B. Fox, Maer; h.c., F. Harper, Uttoxeter; c., J. Davies.

Six 1-lb. Jars Granulated Honey.—1st, E. Clowes; 2nd, J. Davies; 3rd, W. J. Collier; h.c., F. Harper.

Three Frames of Comb Honey.—1st, E. Clowes; 2nd, W. G. Bagnall, Stafford; 3rd, J. R. Crichlow.

Observatory Hive (with Queen and Bees).—1st, E. Clowes; 2nd, J. R. Crichlow.

Beeswax.—1st, J. R. Crichlow; 2nd, J. Stone; 3rd, H. Wood.

Labourers' Classes.

Twelve 1-lb. Sections.—2nd, G. Cheadle, Burston.

Twelve 1-lb. Jars Extracted Honey.—F. Bridgett, Kingsley Holt.

Six 1-lb. Jars Extracted Honey.—1st, W. Croome, Lichfield; 2nd, G. Cheadle; 3rd, F. Bridgett.

Twelve 1-lb. Sections (open)—1st, J. Pearman, Derby; 2nd, W. P. Meadows, Syston; 3rd, J. Lunt, Shavington.

Twelve 1-lb. Jars Extracted Honey.—1st, H. Wood; 2nd, J. R. Crichlow; 3rd, E. Clowes.

Single Section, Single 1-lb. Jar, and Piece of Beeswax.—1st, P. H. Rawson; 2nd, H. Wood; 3rd, E. Clowes; c., J. Lunt.

Collection of Hives and Appliances.—1st, W. P. Meadows; 2nd, G. H. Varty, Etwall, Derby.—(*Communicated.*)

SOUTH OF SCOTLAND B.K.A.

ANNUAL SHOW AT DUMFRIES.

The annual honey show of the above Association took place at Dumfries on the 13th ult., and in common with so many exhibitions of bee produce this year, the effects of an adverse month of July for bee-keepers—who rely mainly on clover or flower honey—the entries showed a considerable decrease compared with those of 1897. The prevalence of honey dew also so darkened the colour of the early season's produce that many exhibitors who usually show white clover honey did not care to stage such dark-coloured stuff as was this season gathered in many districts of Scotland.

Apart, however, from the comparative small display the winning exhibits, and many non-winners, were of excellent quality, showing very few held back who had good stuff to stage, and considering the difficulties they laboured under much credit is due to all concerned.

The Rev. R. McClelland, Inchinnan, Renfrew, judged the exhibits and made the following awards:—

Open Classes.

Three 1-lb. Jars Extracted Honey.—1st, Mrs. J. Ross, Dumfries; 2nd, John Ross, Dumfries; 3rd, Wm. Hogg, Castle Douglas; v.h.c. Jabez Sopp, Wallingford; h.c., John Muir, Kircudbright.

Three 1-lb. Sections.—1st, Jas. Kerr, Dumfries; 2nd, Mrs. J. Ross; 3rd, J. Ross; v.h.c., R. Grierson, Lochfoot; h.c., W. Hogg.

Members Classes.

Super of Honey (under 25 lb.).—1st, Wm. Hogg.

Super of Honey (under 15 lb.).—1st, John McDonald, Lochfoot; 2nd, Wm. Hogg.

Bell Glass of Honey.—1st, R. Grierson; 2nd, Jas. Boyes, Auldgirth.

Six 1-lb. Sections.—1st, Jas. Kerr; 2nd, S. McMonies; 3rd, J. Ross; v.h.c., Wm. Hogg.

Six 2-lb. Sections.—1st, Wm. Hogg; 2nd, J. Ross.

Three 2 lb. Sections.—1st and 2nd, S. McVie, Dumfries; 3rd, J. Ross.

Six 1-lb. Jars Extracted Honey.—1st, J. Ross; 2nd, Wm. Hogg; 3rd, S. McMonies.

Two 1-lb. Jars Extracted Honey.—1st, J. Ross; 2nd, Wm. Hogg; 3rd, Jas. Kerr.

Members Owning not Over Six Hives.

Six 1-lb. Sections.—1st, Henderson & Brown Maxwelltown; 2nd, R. Grierson.

Three 2-lb. Sections—1st, S. McMonies.

Super of Honey (over 10 lb.)—1st, S. McMonies; 2nd, Henderson & Brown.

Super (under 10 lb.).—1st, J. McDonald.

Six 1-lb. Jars Extracted Honey.—1st, S. McMonies; 2nd, Henderson & Brown.

(*Communicated.*)

HANTS AND ISLE OF WIGHT B.K.A.

The Highcliffe annual Honey Show was held August 31, in brilliant weather. For some fourteen years past a show has been held in the beautiful grounds of Highcliffe, opposite the Needles, and each year witnesses a growth in the local bee industry. Latterly it has been held in conjunction with the flower show, so that a large attendance usually results, and this year proved no exception. There was an excellent display of comb-honey in sections and of extracted in jars. Some of the exhibits, however, betrayed unmistakable signs of the honey-dew so generally complained of this year. The bee tent was erected near the honey marquee, and Mr. Bellairs lectured therein during the afternoon. The awards were as follows:—

Twenty-four 1-lb. Sections.—Equal 1st, A. Broom and E. H. Bellairs.

Twelve 1-lb. Sections (Light).—1st, A. Broom; 2nd H. Stephens.

Twelve 1-lb. Sections (Dark).—1st, A. Stephens.

Six 1-lb. Sections.—1st, A. Broom; 2nd, Ivor Bellairs; 3rd, W. Stephens.

Twelve 1-lb. Jars Extracted Honey.—1st, Ivor Bellairs; 2nd, A. Broom; 3rd, A. Skinner.

Six 1-lb. Jars Extracted Honey.—1st and 2nd, Ivor Bellairs; 3rd, A. Stephens.

Beeswax.—1st, A. Stephens; 2nd, A. Broom; 3rd, E. H. Bellairs.

Wasps' Nest.—1st, A. Stephens; 2nd, Sydney Moon; 3rd, Wm. Goodall.—(*Communicated.*)

KNARESBRO' AND DISTRICT B.K.A.

This Association held a show of honey in connection with the Harrogate Horticultural Society on the 18th and 19th ult. This is the first time for many years that honey classes have been included in the Society's annual show, and it was pleasing to see a good entry, the samples staged being of very good quality. The Hon. and Rev. Canon Lascelles and the Rev. C. E. F. Rees (both vice-presidents of the K. and D. B.K.A.) judged the exhibits, and made the following awards:—

Six 1-*lb. Jars Extracted Honey (Open).*—1st, A. Rowling, Boston Spa; 2nd, Geo. Duffield, Harrogate.

Six 1-lb. Sections (Open).—1st, T. Kingsmill, Ripon; 2nd, H. Waddington, Boro' Bridge.

Six 1-lb. Jars of Extracted (Members only).—1st, Geo. Duffield; 2nd, C. B. Elmhirst, Knaresbro'.

Six 1-lb. Sections (Members only).—1st, H. Waddington; 2nd, Messrs. T. and H. Thompson, Grafton, York.—C. B. Elmhirst, *Hon. Sec. K. and D. B.K.A.*

HONEY SHOW AT STOKE PRIOR.

The annual show of the Stoke Prior Horticultural Society took place on the 13th ult., the honey section playing an important part in the day's proceedings. There was a fair number of entries and with seven open classes good money prizes were offered. A goodly number of excellent samples were sent from a distance. This made up for the rather dark colour of local samples, owing to the prevalence of honey-dew. The Rev. E. Davenport acted as judge in the honey classes, and the bee-tent of the Worcester B.K.A. was to the fore with lectures and manipulation of live bees by Mr. E. A. Woodruff to numbers of interested visitors.

PRIZE LIST.

Open Classes.

Six 1-lb. Sections.—1st, A. R. Moreton, Leigh, Worcester; 2nd, A. Collett, Bourton-on-Water.

Six 1-lb. Jars Extracted Honey.—1st, Percy Leigh, Stoke Prior; 2nd, A. R. Moreton.

Beeswax.—1st, A. Collett; 2nd, Wm. Loveday, Harlow, Essex.

Two 1-lb. Sections.—1st, Wm. Woodley, Newbury; 2nd, A. R. Moreton; 3rd, A. Collett.

Two 1-lb. Jars Extracted Honey.—1st, E. A. Hutton, Chester; 2nd, Wm. Loveday; 3rd, W. R. Billing, Elsworth, Cambs.

Single 1-lb. Jar Granulated Honey.—1st, Percy Leigh; 2nd, S. Suffield, Stoke Prior; 3rd, William Woodley.

Super of Honey.—1st, A. R. Moreton; 2nd, I. J. Butler, Stoke Prior.—(*Communicated*).

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

BEE-KEEPING.

HOW TO ACHIEVE SUCCESS.

(Concluded from page 232.)

[3379.] There are one or two more points to be dealt with before concluding this series of articles, and that most applicable to the present time is:—

Wintering Bees, which means preparing them for the season of rest. Very much depends upon the care and attention given in the autumn to our hives and their inmates so far as ensuring whether the bees will eventually come out in the following spring in a strong healthy condition and be likely to ensure success. First, then, all frames not covered with bees should be removed, and any stock in which the bees at this period do not well cover seven or eight frames should be strengthened by adding either bees from weak but healthy hives or giving a driven lot from a skep, which latter is easily obtainable at this season. It is false policy to expect stocks found weak in autumn to stand the winter well and come out strong in the new year, even with the greatest attention to their well-doing. Having got the bees into a suitable space, the next point is to trace out whether or not the queen is perfectly satisfactory in all respects, to head the colony in the coming year. If this be at all doubtful lose no time in replacing her with a queen worth having. Attention must also be given to the food supply; 20 lb. to 25 lb. of sealed stores are necessary, and this weight of food, supplemented with a large cake of soft candy, will relieve the bee-keeper's mind on this point. If less than the amount stated is found in the combs give thick syrup (made as per "Guide Book" recipe) as rapidly as possible, taking care to feed only after sunset to avoid risks of "robbing" being started. This is most important at this season, because a hive badly robbed is thrown back almost hopelessly in the

process, but often the whole apiary gets disorganised for weeks through the upset caused. Aim to get the above items attended to by the end of September at the latest. Hives having more than enough natural stores can be relieved of a part of the surplus, if desired, for the benefit of those less well supplied, as, in my opinion, natural stores are pre-eminently the best to winter bees on. In "robbing Peter to pay Paul," however, be sure that "Peter" is in good health, seeing that only disaster must follow if honey from an unhealthy stock is given to a sound one.

After feeding is completed, place an empty comb in the centre of brood-chamber for the bees to cluster upon; then lift the body-box and sweep the floor-board clean of all débris; place the candy cake mentioned above on top of frames, quilt snugly down, and when the weather turns cold reduce width of entrance to 2 in. With regard to winter packing, I use none save on top, and up to the end of year I consider three fairly thick quilts enough covering overhead; after that date four or five are desirable, and a sheet or two of newspaper or similar material should be placed on top, and well tucked down at the sides to prevent escape of heat. Should the weather become very severe as spring approaches, reduce entrance to an inch or less and add more packing on top. At such times a large portion of the soft goods belonging to one's household usually vanish mysteriously where a large apiary is kept, and only reappear when they have served the purpose desired and the weather has taken a favourable turn, so that no risk is run by their removal.

Appliances.—Referring to these, I do not believe in straw skeps as homes for bees, nevertheless, I prefer skeps to cheese-boxes, lard-tubs, and the like for bee-hives. Suppose, for instance, we want the bees driven out for any purpose; it is comparatively an easy matter to drive them from a skep, but such other makeshifts for hives as lard-tubs and the like are, to my mind, an intolerable nuisance, and should be avoided, especially as a permanent home for bees. Frame hives are admittedly far and away the best for all practical purposes in modern bee-keeping, and with so many good hives on the market the good points of which are fully set out in the catalogues of various dealers so that description here may be dispensed with. One point, however, must not be overlooked, viz., the necessity for interchangeability of all parts of all hives in the apiary. Nothing looks nicer than to see all hives of one pattern on one location, but interchangeability of parts is so indispensable for comfort and efficiency in working that it takes precedence over all others. For hive-making no timber is really suitable but good seasoned pine, free from knots and shakes. I have now in my apiary a few hives bought ten or twelve years ago from one supposed to be a good man in the trade that have been an eyesore to me for years, and some day I shall assuredly go for the lot and boil syrup with them! It is better to pay a fair price for a good article than to be tempted to invest in cheap (and nasty) ones. Home-made hives are all very well if the bee-keeper is a good amateur joiner, with a well-made hive as a pattern; but I find the home product in most cases lacks something in actual work. Still they do very well in their way. Second-hand hives and appliances I cannot recommend, having in view the prevalence of foul brood throughout the kingdom. My advice is, *run no risks* and start with new hives and appliances only.

Bee Diseases.—A few lines on this subject will bring my remarks on "How to Achieve Success" to an end. One of the first elements for ensuring success is that every bee-keeper should thoroughly acquaint himself with such reliable information as is obtainable regarding the bee disease known as foul brood. The man who says "I never had foul brood among my bees and don't want to know anything about it," is as one working in the dark. Moreover, should his bees contract the disease they will probably have it so bad before the truth becomes apparent, that it simply means ruin to his apiary. On the other hand, the man who acquires some knowledge of *bacillus alvei* will, on discovering an outbreak in its incipient stage, take especial care that it never gets beyond that point. The latter is on the way to achieve success in bee-keeping; but the other, of which I know many in real life, is a standing danger, not only to himself as a bee-keeper, but also to the bee community at large.

It is now so common a thing to hear individuals talk of there being no foul brood in districts where the disease is more or less rampant, that it becomes in many cases mere idle talk of people who have no real means of knowing. As a matter of fact, so far as my experience goes, there are few (even comparatively) places where no foul brood is to be found, and in many it exists without those whose bees are affected being aware of the fact, so that no one is safe, for it appears like a thief in the night, and none know from whence it comes. The only wise course, therefore, is, as I have said, to become acquainted with its appearance. It is easily recognised, the yellowish, out-of-its-proper-position look of the young larva being so plain that there need be no mistake if the disease is there; and as it advances the dark, sunken, and often perforated cappings of the brood-cells plainly indicates its insidious progress as it reaches the brown sticky mass of the last stage of rottenness. Smell is no certain test and cannot be relied upon, but the brown coffee-coloured contents of cells in a badly-diseased comb once known is unmistakable. Never permit a hive to be without some disinfectant, and immediately an outbreak is detected get the bees off the combs and into a clean hive, burn the infected combs, and thoroughly disinfect the old hive and put it on one side open to the air for some

months. If bees are very weak in numbers burn them as well. If, however, they are strong, so soon as they are off the diseased combs requeen them. This, in my opinion, is an important item. As a means of combating the disease everything should be done to increase the vigour and strength of our bees; failing queens produce low vitality in our stocks. Want of cleanliness and unwholesome food are sure means of producing disease. Finally, always keep a written note of the condition of all stocks for future reference.—HENRY W. BRICE, *Upper Norwood.*

THE GROCERS' EXHIBITION.

[3380.] I hope your remarks on page 341 of last week's B.J. in furtherance of this excellent new departure will have the effect you and all bee-keepers desire, so that there may be a fine exhibition of honey despite the unfavourable season just concluded.

I have obtained one promise of an exhibit from a grocer-bee-keeper at Swanley, a new member of our K. & S.B.K.A., who seems pleased to hear of the opportunity of competing, and at the same time of advertising himself. I also expect entry from another grocer-bee-keeper at Eynsford, and a third from a non-bee-keeping grocer at Farningham.

There should be a spirited effort to get entries from grocers. Every bee-keeper deals with some grocer, and therefore can at least interview that one at once to secure his promise of support, and at the same time sell him a good sample of honey to exhibit. This latter part of the duty must not be forgotten. This canvassing of the grocers must not be delayed, inasmuch as there is no time to be lost. If bee-keepers bear your remarks in mind we shall certainly have a very fine display of honey that will do credit to the industry.—E. D. TILL, *Eynsford, September* 5.

SWARM BUILDING COMB ON TREES.

[3381.] I write to bring to your notice a singular bee phenomenon, which has occurred within a mile of my house.

A large swarm of bees about five weeks ago alighted on the arm of an apple tree in the orchard. They have never moved since their first alighting, and have made a large collection of comb, enough almost to fill a bushel measure. They work actively and continuously, as if they were in a skep or bee-box. I have no doubt that in the centre combs there is honey, although not visible. The owner of the orchard has had this curious phenomenon of a swarm of bees building their combs in the open photographed, and if possible I will send a photo of it to you.

I want to ask if such a thing has ever been known before, and if the combs be cut off the tree and put into a bee-box (and left for a time close to the tree) whether I could, by feeding in the autumn, keep them alive, so that they become a stock? If this were possible I could place them among my own bees when the weather becomes cold.

If you could answer these questions, and also kindly give me some advice and directions on the subject I should be very much obliged. —H. W., *Long Stratton, September* 5.

[Though not of frequent occurrence, it does happen in warm summers that swarms of bees will build combs and occupy them for several months in the open air. A similar case to the above happened at Lullingstone, in Kent, this year, and a photo (which we hope to reproduce in our pages shortly) was taken of the combs and bees, which are located about 20 ft. from the ground on a tree. This swarm still occupies these combs in the original position, but they have been "boxed in" and fed, so that they will no doubt be wintered there if it is not desirable to remove them.—EDS.]

DRIVING BEES.

AN UNTOWARD EXPERIENCE.

[3382.] On Saturday, August 13, I endeavoured to drive some bees from skeps at a place in Essex. As there were several skeps to operate on, I started work between four and five in the afternoon, and by doing so, missed many bees which were out at work in the fields. I drove the bees into bags with perforated zinc at end, but while driving nearly all the combs broke down. Nor did I manage to secure all the bees from the four skeps, though trying to do so. However, after getting out as many of the bees as was possible, I found that the only place to put the skeps of honey when driven was a shed with wide gaps round its door and wide cracks in boards. Consequently, to my dismay, the flying bees from about fifteen untouched skeps found out the honey and started robbing most energetically. I hung a great sack soaked in carbolic acid over the door of shed, but it did little or no good in stopping the mischief, and, more or less, failure resulted. I was to go and drive all but three or four of the remaining fifteen skeps later on, but should like some expert assistance to enable me to drive them more successfully. The difficulty apparently is to protect the honey when taken. What is the best way of ensuring its safety and a successful finish to my "driving" expedition? If you can help me, please do so.—A. B., *East Barnet.*

[After some inquiry, we are unable to assist "A. B." by procuring the expert assistance he so evidently needs. But it is quite clear that lack of experience in bee-work was the sole cause of the trouble and failure detailed above. Moreover, it is very regrettable to all concerned when a fiasco occurs after a cottager has been induced to part with his bees to "a bee-man of the modern school," and such

mishaps should be carefully guarded against. As for the difficulty of protecting the honey in driven skeps from robber bees, an old newspaper tied securely over the open side of each skep would have made it perfectly safe, especially if carried indoors. Any beginner should, however, see bees driven by an experienced hand before attempting to deal with a lot of skeps, especially when using bee-bags. —EDS.]

BEES *versus* WASPS.

[3383.] However fond we may be of our bees (and most of us are fond of them to a degree amounting almost to love), there are times at which the perspicacity and pluck of other insects are forced on us in a way there is no denying. Sir John Lubbock has told us how much quicker wasps were under his observance of getting out of a difficulty than bees, and all must admit that the former certainly come out stronger than our particular pets, the bees, when it becomes a question of resource.

About a fortnight ago a gardener partially destroyed a nest of wasps in a bank by pouring hot tar into the aperture. This was foolishly done in the daytime when a hundred or so wasps were still at large. These latter, on returning, finding their home literally in a state of "pickle," looked round for the next best shelter, and soon decided on one which was hard by, viz., a tin about 4 in. cube. This tin was upside-down and in the bottom was a slot or opening. It (the tin) contained a roll of newspaper. The man wanted to finish his work by adding some boiling water to give the home-comers their *coup de grace*, but I interceded on their behalf in order to see what so few motherless wasps would do under the circumstances. They quickly reduced the size of the slot by filling up the space so as to allow the ingress and egress of only one insect at a time. To-night I turned the tin over and found the piece of newspaper mentioned above kneaded up into countless passage-ways of wasp-comb. There were only about fifteen wasps left, and one of them stung me.—SANNYER ATKIN, *Norton Lees, September* 6.

THE GEDLING COMPENSATION FUND.

The following letter reached us a few days ago, and we would have been very pleased to see so goodly an addition to the fund from bee-keepers as the proposal of the Committee of the W.B.K.A. foreshadowed, but as we are told that a sum sufficient to meet the needs of the case has now been subscribed or promised, it is hardly worth keeping the matter open any longer. We therefore—as soon as a few subscriptions promised have come in—intend to close *our* list and hand over the amount to the treasurer appointed to receive the same without delay.

In addition to the amounts already acknowledged we have to announce the following:—

Fredk. L. Taylor (Fallowfield)	£0	2	6
W. B. (Patrickswell)	0	2	0
J. S. M. ("Little England").....	0	1	6

Knowle, August 18, 1898.

Editors, BRITISH BEE JOURNAL.

GENTLEMEN,—At a meeting of my Committee held this day, the subject of the Gedley disaster was discussed, and it was unanimously resolved that a contribution of one guinea from the Association's funds be sent to you, provided sums amounting in the aggregate to nine guineas be subscribed by other affiliated associations. When you are in a position to report to me that contributions to the above amount have been promised. I will with pleasure forward you a cheque for one guinea.—Yours faithfully,

JAMES NOBLE BOWER,
Hon. Sec. Warwickshire B.K.A.

WASPS AND WASP STINGS.

A SIMPLE REMEDY.

"The very serious consequences, almost sudden death, following the sting of a wasp at the root of the tongue noted in your last issue, p. 164, shows that extreme care should be exercised when picking and eating fruits of any kind during a season when these pests are so uncommonly numerous as they are this year. It may be of use to make it known that common salt applied freely in cases similar to the above has been known to act efficaciously, by reducing the swelling, and probably saving the life of the patient. A case has come under my notice here within the past few days, where a woman on this estate was stung in the throat by a wasp which she had swallowed with some jam. Salt was promptly applied inwardly both alone and in mixture with vinegar, and also rubbed on outwardly, and this in all probability saved her life. No doubt prompt application is desirable; but as this homely remedy is nearly always at hand, the fact of its usefulness should be made known.—*C. Herrin, Dropmore, Maidenhead.*"—*Gardeners' Chronicle, September* 3, 1898.

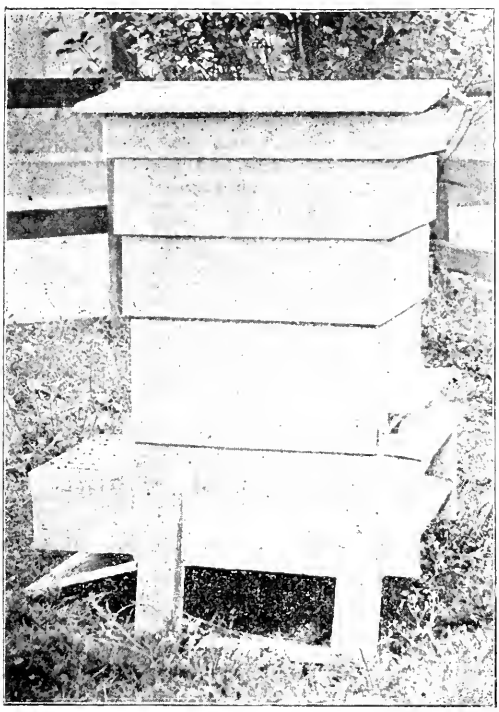
NOVELTIES FOR 1898.

GREENHILL'S NON-SWARMING HIVE.

Concerning the above novelty for 1898 the maker says:—

"The advantages claimed for this hive consist of a space beneath the brood-nest, made to hold an ordinary box or crate of shallow frames. When these are in position it offers a great advantage in keeping the hive cool, providing plenty of ventilation, and checking the inclination to swarm.

"The hive is so made that all parts are interchangeable, and the covers are deep enough to take two boxes of shallow frames or three racks of sections. As soon as the bees get overcrowded, the shallow-frame crate is placed under the brood-nest, first removing a wedge which keeps the floor-board in its proper position. By this simple contrivance the floor-board is very easily redrawn and replaced under the lower chamber, where it remains until the swarming season is over. As the shallow frames of comb below brood-nest



Greenhill's Non-Swarming Hive.

become partly worked out, they are removed in the box above the surplus chamber and replaced by a second box of empty ones. As shown in the illustration, there are two entrances, but when the lower chamber is in use, the upper entrance is closed. This is more natural and allows the bees to clean out the débris. If the upper entrance is closed after work is over for the day and the bees issue next morning through the lower one there is no confusion through the change of flight-board.

"This hive was awarded first prize at the Kent and Sussex B.K.A. County Show at Dover last month, and got third prize at the 'Royal,' Birmingham, in June last. I think it will meet a long-felt want, both in the prevention of swarming and in getting the bees at work in surplus chambers by as simple and effective a plan as any on the market."

WEATHER REPORT.

WESTBOURNE, SUSSEX,
AUGUST, 1898.

Rainfall, 1·36 in.
Heaviest fall, ·50 in., on 7th.
Rain fell on 10 days.
Below average, 1·27 in.
Maximum Temperature, 79°, on 18th.
Minimum Temperature, 44°, on 26th.
Minimum on Grass, 0.
Frosty Nights, 0.
Sunshine, 229·3 hrs.
Brightest day, 20th, 13·1 hours.
Sunless Days, 2.
Above average, 29·8 hours.
Mean Maximum, 68·4°
Mean Minimum 53·4°.
Mean Temperature, 60·9°.
Above average, 1·8°.
Maximum Barometer, 30·33°, on 11th.
Minimum Barometer, 29·73°, on 8th.

L. B. BIRKETT.

METEOROLOGICAL.

OBSERVATIONS TAKEN AT DUDDINGTON, STAMFORD, NORTHANTS, FOR THE WEEK ENDING SEPT. 3, 1898.

1898.	Bar. in.	Tem. 9am deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in
Aug. 28....	29·89	59·5	65	49	16	56·5	·02
,, 29....	29·99	54·2	63	44	19	52·9	·12
,, 30....	29·80	63·0	72	54	18	62·5	—
,, 31....	30·00	57·9	65	52	13	58·1	—
Sept. 1....	30·30	57·8	66	44	22	54·5	—
,, 2....	30·28	61·8	70	44	26	56·4	—
,, 3....	30·35	65·9	75	57	18	65·6	—
Means	30·09	60·0	68·0	49·1	18·9	58·0	*·14

* Total.

For the week ending August 27, the mean temperature, viz., 63°·0, was +2°·9; and the rainfall, viz., ·15 in., −·35 in. The rainfall, July 31 to August 27, viz., 2·83 in., is +·50 in.; and that, January 2 to August 27, viz., 12·10 in., −3·57 in. For the week ending September 3, the mean vapour tension is 0·442 in.; mean relative humidity, 85 per cent.; mean temperature of the dew point, 55°·3. The week's rainfall, viz., ·14 in., =3,167·22 gallons, or 14·14 tons to the acre, or 11·2 oz. to the square foot.

FRED. COVENTRY.

Echoes from the Hives.

Crown Hill, South Devon, August, 1898.—There has been abundance of good honey in South Devon, and those bee-keepers who have not secured a fair and, in some neighbourhoods, a big surplus have only themselves to blame. There has been a lot of honey-dew on the trees, especially limes, but I do not know of a single instance where the bees have touched it, and I have access to several apiaries. The honey-flow from white clover lasted about a month. Swarms in

healthy apiaries have been very numerous. As you desire to see a respectable sample of honey from some part of the kingdom, I have sent you one per this post; it is a fair sample of what I am now extracting. The section honey previously taken was a little paler in colour. Wishing our up-country bee brothers better success in future.—H. H.

Westbourne, Sussex, September 3.—My average "take" per hive this year is about 30 lb. No honey-dew whatever; honey chiefly from second crop of white clover and from the limes. No swarms.—L. B. BIRKETT.

Queries and Replies.

[2098.] *Returning Swarms.*—On May 23 last I united two lots of bees that had been wintered in two old straw skeps and transferred the bees to a frame hive. The spring of 1898 here in France having proved very wet and cold I fed liberally. On July 28 a first swarm came out of the hive in question; I destroyed the queen and returned the bees to the parent hive. On August 4 a second swarm came out; I did the same as with the first. Notwithstanding this a third and fourth time did the bees swarm, each swarm being headed by a queen, which I always killed before putting the bees back. At last, being tired of returning swarms, I opened the hive and found eight queen-cells, some nearly hatched out. I removed the whole lot except one, and the bees have not swarmed since. I therefore ask: 1. Is there anything unusual in bees breeding so many queens? 2. Is it a good plan, when you do not want any increase of stocks, to destroy the queens when they come out with a swarm and return the bees to the parent hive, as I did?—Y. DE MOIDREY, *près Pontorson, France, August* 16.

REPLY.—1. Some races of bees swarm abnormally, as yours have done; we advise re-queening if they show the same tendency next year. 2. It would have saved time and trouble had you destroyed queen and *then* cut out all cells but one when the bees first swarmed.

[2099.] *Transferring Bees.*—I have three skeps of bees which I put over the top bars of frame-hives (eight in each hive) in spring, the frames being fitted with foundation half way down. One skep was so weak in bees that they have not worked down into the frame-hive at all, but the skep appears about half full of honey. 1. Should I let it stop where it is for another season? The other two appear by the weight of the skeps to have filled the latter, and also the frames with honey, as it is nearly all sealed up. 2. Is it now time that I took the skeps away, and if so, how must I proceed? 3. After getting the skeps away, how must I extract the honey from the combs? 4. There are eight frames in each hive, is that enough? 5. Would you re-queen, as one hive did not swarm last year, and none have swarmed this, to my knowledge?

REPLY.—1. Yes. 2. If combs in skeps are sealed over the sooner taken off the better. In removing it may be necessary to draw a wire between skeps and frames—as is done in cutting "keg" butter—to sever any brace-combs the bees may have built between upper and lower chambers. 3. Either by slicing and straining before a fire, or by means of an extractor furnished with extracting cages. 4. Yes, for wintering on. 5. Only re-queen where the present queens are known to be aged or failing.

[2100.] *Uniting Bees.*—I have two nuclei composed almost entirely of Ligurian bees, which I wish to make up into stocks with driven bees. Ligurians and blacks do not readily amalgamate. What special precautions do you advise?—D. D. B.

REPLY.—Ligurians and blacks will join as amicably as any. To make the operation certain, first remove and cage queen from Ligurian stock, sprinkle both stock and swarm with flour, kill queen in driven stock and join; then place queen in cage on top of frames for twenty-four hours, and then reintroduce her to the joined forces.

Bee Shows to Come.

October 1, at Hawick, Roxburghshire, B.K.A. Annual Show of Honey at the Town Hall. **Twenty-five open classes for honey, &c.** Single payment of 2s. for any number of entries. Schedules from Thos. Clark, Sec. Pleasants Schoolhouse, Jedburgh, N.B.

October 1 to 8, at the Agricultural Hall, London.—Honey Exhibition in connection with the Third International Exhibition of the Grocery and Kindred Trades. Classes (for Master Grocers only) for Sections and for Extracted Honey. (See advt. on p. iii.)

October 5 and 6, at the Public Hall, Caterham Valley, in connection with the Caterham Fanciers' Show. Honey classes open to Surrey, with liberal prizes for Twelve 1-lb. Sections and for Twelve 1-lb. Jars Extracted Honey, also for Wax. Schedules from J. Kilby, Caterham Valley. *Entries close September* 21.

October 18 to 21, at the Agricultural Hall, London.—Show of Honey and Bee Products, in connection with the British Dairy Farmers' Association. Liberal prizes for honey, &c. Schedules from Wm. C. Young, Sec., 12, Hanover-square, London, W. **Entries close September 19.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column

M. M.; "A PUPIL" (Workington).—*Starting Bee-keeping.*—We are very pleased to have you joining our list of readers, but cannot say it was quite judicious on your part to buy so many as seven stocks without any previous knowledge whatever of bees or

how to manage them. However, since you ask us to name a book likely to assist in managing your newly-acquired "live-stock," we advise the Bee-keepers' "Guide Book" as affording full information on the subject.

F. T. (Birmingham). — *Pollen Stored in Shallow-frames.* — We invariably recommend the use of queen-excluder zinc between brood-nests and shallow-frame surplus chambers, and when this advice is followed little or no trouble such as yours arises from combs "half filled with pollen." It may be possible to wash the pollen out by steeping the combs for some time in clean water, but it will be a rather troublesome job to get them cleared for use as storage combs. On the other hand, if left over till next year, the pollen will be dried up and unfit for use. It gives the bees a lot of work to remove the hard pollen pellets, but they will do it if left to them.

R. B. (Colwyn Bay).—*Selling Surplus Stocks.* —Surely "a constant reader of the B B.J.," as our correspondent declares himself to be, cannot pay much attention to our "prepaid" advertisement column or he would not have to appeal to us in aiding him to sell half-a-dozen hives of Italian bees. To talk about "killing the bees" because of not knowing how to sell them is absurd. Send us about a shilling's worth of postage stamps, with particulars, and we will frame an advertisement which will probably procure a customer if the bees are guaranteed to be healthy.

Novice (Westmoreland).—*Bees Hanging Out.* —1. Want of ventilation is the only reason we can give for "bees hanging out with plenty of room inside." 2. There are no printed instructions for making a rapid feeder. A glass jam-jar, costing 2d., with its wide mouth covered with a piece of calico, answers the purpose well.

Koko (Maybole).—*Honey Samples.*—All five samples are from white clover, and are very good; there is little to choose between them.

An Ignorant Bee-keeper (Wheaton Aston). —*Honey Dew in Sections.*—Regarding the saleableness or otherwise of these, it all depends upon the number of "darker-coloured cells" among the "nice, white, sealed" cappings of the well-filled sections taken off. In any case, they can be offered at a lower price so long as the honey in them is of fairly good flavour.

Alfred Jones (Southport).—*News Agents and the* Bee Journal.—We cannot tell why your news agent is so late in supplying the B.B.J. in Southport. Our publishers in London receive each week's supply on Wednesday afternoon, as also do Messrs. W. H. Smith & Sons for their railway bookstalls, while Mr. John Heywood gets his supply in Manchester about five o'clock on Thursday morning. So that our publishing arrangements are not at fault. This is the only "official information" we can afford in reply to your request by way of assisting you to get the paper in time.

X. Y. Z. (Surrey).—*Foul Brood Covered by Pollen.*—1. We do not think the affected brood would be covered up in this wise. 2. Yes, certainly, if no trace of disease is now found.

T. E. P. (Pewsey).—*Queen-cell.*—The cell sent is that of a queen recently hatched. The hive contained a virgin queen when cell was removed, in our opinion, as some royal jelly is still at the bottom of cell.

F. E. G. (South Ealing).—*Transferring Bees.* —The best time for this to be done is the spring, and when this is undertaken remove floor-board from old hive and place body-box or new (if bees are healthy) hive, and allow bees to transfer themselves.

E. C. (Chester).—*Jam (Honey?).*—The sample sent is very like jam syrup, and this opinion is strengthened by the red sediment at bottom of jar.

Shipley (Leicester).—*Requeening Stocks.*—1. We should advise no requeening so long as there is any uncertainty as to age of queen. Bees frequently supersede their own queens and raise others unknown to the bee-keeper. So long as the stock is strong and does well, do not trouble about queens until you have gained more experience. Moreover, do not try your hand at queen raising without reading all about it in a good guide-book. 2. Grubs found among the wax chippings and débris on floor-boards at "cleaning time" are usually the larvæ of moths.

M. S. (Basingstoke).—*Honey Sample.*—Honey sent is a good sample, and we can trace no honey dew therein. It may be darkened a little by honey collected from beans. It is hardly good enough for show purposes.

H. D. D. (Basingstoke).—*Honey Sample.*— Sample sent is a good honey; not, however, quite free from honey dew, but quite fit for table use.

X. Y. Z. (Ludlow).—*Honey Labels.*—We do not know who supplies labels as pattern sent.

R. D. (Essex).—*Honey Samples.*—All four samples are more or less mixed with honey dew.

J. J. C. (Swindon).—*Wasps in Shops.*—We can only advise the use of sweetened beer in tall bottles with wide mouths as traps for these pests.

W. F. (Staffs).—*Name of Insect.*—Insect sent belongs to the family Siricidæ-Sirexgigas.

E. V. (Sandbach).—*Bee Lectures.*—There are no printed lectures on bees published.

Inquirer (Hendon).—1. Comb contains nothing worse than pollen. 2. Stimulative feeding is not needed this year if stores are sufficient.

J. W. (Cottenham, Cambs.).—*Experts' Examinations.*—Write to Mr. Edwin H. Young, 12, Hanover-square, London, regarding these.

Special Prepaid Advertisements.

Twelve words, Sixpence; for every additional Three words or under, One Penny.

HONEY JARS, 1-lb. screw-cap, 15s. per gross. JAS. DYSON, Stainforth, Doncaster. X 5

1 CWT. good HONEY, price 30s. Sample free. COLLIN, 2 Kirtling, Newmarket, Cambs. X 19

FOR SALE, 3 cwt. Extracted HONEY. Sample 2d. W. G. KIGHT, Chisledon, Swindon.

FOR SALE, 400 SECTIONS, 7s. 6d. per doz. Extracted, 60s. per cwt. Tins and crates free. Sample 3d. H. MAY, Kingston, Tetsworth. X 18

HONEY FOR SALE. About 300 lbs. of extracted, and about 60 sections for sample. Apply to GEO. CROMBIE, Hotham, East Yorks. X 29

FOR SALE, 1 cwt. Extracted HONEY, in 28-lb. tins, 56s. per cwt. Tins free. S. ALTON, Stambridge Apiary, Rochford, Essex. X 27

ENGLISH HONEY, 11s. 6d. per ½ cwt. Tins free. Sample 2d. Deposit system. RICHARD DUTTON, Terling, Witham, Essex. X 17

BEES FOR SALE on Frames. Four frames, 10s. 6d. Eight frames, 18s. 6d. In hives, 27s. 6d. J. T. PRESLEY, Whitwell, Chesterfield. X 22

SEVEN DOZ. really good SECTIONS. Cash offers invited. BROWNING, Bee-keeper, Woodchester, Stroud. X 26

FOR SALE, MEADOW'S new Half-Guinea EXTRACTOR, 7s. 6d. SAMWAYS, Maesybont, Llandebie, Carmarthen. X 20

QUANTITY good HONEY WANTED at once. Send sample to F. SLADEN, Ripple Court Apiary, Dover. X 25

QUEENS, a few young ones at 3s. 6d. each. Guaranteed healthy and fertile. A. SIMPSON, Mansfield-Woodhouse, Notts. X 4

FINE SELECTED ENGLISH QUEENS, tested, 5s. each, sent in introducing cage. W. WOODLEY, Beedon, near Newbury.

HEALTHY DRIVEN BEES, 1s. 3d. lb., in 4-lb. or 5-lb. lots. Boxes to be returned, or 2s. extra. E. LONG, Fulbourne, Cambs. W 83

THOS. J. HORSLEY, has comfortable APARTMENTS for brother bee-keepers visiting the Isle of Man.—Merridale House, Empire-terrace, Douglas, Isle of Man. W 27

"HONEY AND ITS USES." New edition, 1½d., 3s. 6d. per 100. "Mead, and How to Make It," 2½d. "Vinegar from Honey," 2½d. Sample bottle, 7½d. Rev. GERARD BANCKS, The Green, Dartford. W 97

FOR SALE, 10 STOCKS of BEES in frame hives, certified as being "in excellent condition and perfectly healthy." Address, G. PEARSON, Goodbury House, Woodlands, Kemsing, near Sevenoaks. X 16

DRIVEN BEES, with Young Queen, at 1s. 3d. lb. Box returned or charged 1s. Will quote for second swarms and young queens. E. GARNER, Broom, Biggleswade, Beds. W 99

QUEENS RAISED under most favourable conditions 5s. each, with introducing cage. Post free. Safe arrival guaranteed. Importer of foreign queens. Address, Rev. C. BRERETON, Pulborough, Sussex.

DRIVEN BEES. OWEN BROWNING, Kings Somborne, Stockbridge, Hants, is now offering his well-known strain, guaranteed healthy, with young queens, 1s. 1d. per lb., carriage paid. X 21

GUARANTEED Healthy DRIVEN BEES, 1s. 3d. per lb., with queen. Travelling cases, 1s. Strong healthy stocks in skeps, 12s. 6d., packed free on rail. WOODS, Normandy, Guildford. X 23

Prepaid Advertisements (*Continued*).

WANTED OFFERS for 8 doz. clean 1-lb. SECTIONS of HONEY, glazed. HALE, Heronsgate, Rickmansworth, Herts.

DRIVEN BEES.—I have a few lots FOR SALE at 1s. 3d. per lb. in 4 or 5 lb. lots with young queen. Boxes to be returned carriage paid. Also young fertile QUEENS 2s. each, post free. Safe arrival guaranteed. A. J. CARTER, Billinghurst, Sussex.

SMALL SWARMS with young fertile queens for building up or uniting to queenless stocks, 5s. 6d. case included, on rail. Fertile queens 3s. 9d. each, delivered. ALSFORD, Expert, Blandford.

LACE PAPER for GLAZING SECTIONS, in several neat patterns and colours (white, pink, and French grey). 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. W. WOODLEY, Beedon, Newbury.

BRICE'S RELIABLE QUEENS. Well-known strain, one quality, one price. Mated tested Queen, 5s. 6d. Post free in my perfected travelling and introducing cage. Quality and safe arrival guaranteed. HENRY W. BRICE, Dale Park-road, Upper Norwood.

DAFFODILS. Fine home-grown bulbs. Per 100:—Sir Watkin, 10s.; Emperor, 15s.; Horsfieldi, 9s.; Barri Conspicuus, 10s.; Telamonius plenus, 2s. 6d.; Snowdrops, 1s. 6d.; Crocus, 1s. per 100. SANDS, Rednal, Worcestershire.

FOUR Standard Bar-Frame HIVES of BEES in splendid condition. Frames more than half full of honey, 25s. each. Also three good strong stocks in skeps, 10s. each. Disease unknown in district. WATSON, Threlkeld, Penrith. X 24

BEES of my well-known strain, fine tested 1898 Fertile Queens, 3s. 6d. each, safe arrival guaranteed. Strong three-frame Nuclei with Queen, 10s. 6d. Bees, 1s. 3d. per lb. for 5 lb. lots and over. Queen included. Packages to be returned. Guaranteed healthy. WHITING, Valley Apiaries, Hundon, Clare, Suffolk. W 42

THE SCOTTISH BEEKEEPER.

PUBLISHED FORTNIGHTLY. **3s. 3d.** per annum, Post free.

Send stamp for specimen copy of current number. It will please you.

WILLIAM ORMISTON,
BIGGAR, N.B.

MR. H. NEWSOME BAXTER,

Sedbergh,

Bees, Honey, and Appliances.

DAIRY SHOW, LONDON,

OCTOBER 18th, 19th, 20th, and 21st.

LIBERAL PRIZES for HONEY, &c.

REDUCED FEES TO MEMBERS B.B.K.A. and Members of Affiliated Societies.

ENTRIES CLOSE SEPTEMBER 19th.

WM. C. YOUNG, Secretary,
12, Hanover-square, London, W.

Editorial, Notices, &c.

USEFUL HINTS.

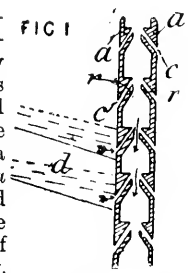
(*Concluded from page* 351.)

Another week has gone, and the temperature during the whole of the intervening time has been several degrees higher than when we last wrote. On Thursday, the 8th inst., between two and three o'clock, a properly protected thermometer in the Strand registered 92·1 deg. Fahrenheit in the shade and a solar radiation of 122 deg. Fahrenheit. This is, we understand, the highest temperature ever recorded for so late a date in the year. The interesting table on page 367, furnished to the *Standard* by our correspondent Mr. F. Coventry, is remarkably instructive, as covering so long a period of time, and showing that so hot a day in September has not been recorded for 127 years. In view of the heather harvest, one would think that the abnormal heat and sunshine will be very beneficial, and that bees will do well at the moors seems assured.

THE GROCERS' EXHIBITION. — The letter referring to this subject, which appeared last week on page 355, is characteristic of the writer, and not only shows how readily the importance of the opportunity offered has been grasped by the chairman of the Kent and Sussex B.K.A., but while others would be thinking of how best to turn it to account, Mr. Till is already at work and has secured entries for the show. That his good example may be followed is our earnest wish, and that of all who desire to benefit the industry. But there is no time to be lost if the best results are to be secured. The entries close on the 23rd —a week hence!—so it needs to be up and doing.

THE LATEST "PATENT" IN BEE-HIVES.—In these days when bee-keepers are (we hope) doing their very best to cheapen production in the matter of good honey, it is comforting, encouraging, nay it is—as the ladies say—"quite lovely" to find in the *Patents Journal* of the 24th ult. that a method far and away beyond the hopes of the wildest has been patented here in England, by means of which we shall get cwts. of honey where only lbs. came in. Apparently also Mr. Meadows, of Syston, may offer his whole stock of extractors, and the machinery for making them, for an old song; in fact, by the new method customers may come to our hives jar in hand, and watch the bee-man draw the golden nectar off by means of a treacle tap! But we won't anticipate, rather let us quote without further comment the description, which reads thus:—

8641. Bee-hives. SZABO, J., Er-Endred, Hungary.



Relates to the construction of frames of bee-hives to allow the honey to trickle from the cells into a receptacle placed beneath. The cells *d* are formed at one side of a stamped sheet-metal plate *a* having passages *c* formed through it. The frames are built up by placing two of the sheets *a* back to back, so as to leave a passage *r* between them, which communicates through a pipe with a receptacle arranged in a chamber beneath the hive. The frames are suspended by means of nails, the heads of which run in undercut grooves in the top of the hive. The hive is divided by a perforated partition into a honey chamber and a brood chamber. — *Patents Journal*, August 24, 1898.

We do not quite know if Mr. J. H. Howard will "sell out" of his "Weed" foundation machines after reading the above, but would like to hear what he has to say about "patents" *now?*

"TO CORRESPONDENTS." — Some letters have reached us making quite excusable complaint of delay in replies to queries sent to this office. We are quite ready to admit the delay, but not the justice of many complaints. If editorial time hung on our hands, or we were unwilling to do our best, the case would be different, but when one yields up the British workmen's cry for "an eight hours' day" with no reluctance, and willingly "go on" after till from a dozen to fifteen hours have passed, one begins to think what our workman friend calls "leaving-off time" has about arrived. This is all we say on our side, and for the "other side" correspondents should really exercise a little consideration in writing for information which has appeared in our pages dozens of times. Take foul brood for instance. A suspicious comb is discovered or a bad case found out. A sample is sent, and

the almost inevitable question, wanting full particulars of the best method of dealing with the particular case in question to treat the bees and hives. As a contrast we print the following, which came to hand recently:—

DEAR SIRS,—I send per this post, under separate cover, a piece of comb. Will you please say *yes* or *no*, on enclosed addressed postcard, whether it is affected with foul brood or not?—J. A. H.

Of course the above secured a prompt reply, but the brevity of the query and of the reply asked for was made still pleasanter by the admirable way in which the sample was packed, contrasted with what are sometimes received. If, therefore, our correspondents will so far as is possible follow the example quoted, not only would we be relieved of a great deal of unnecessary trouble, but none need to wait for reply more than a day or so, and in special cases longer than return post.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 105, Jermyn-street, S.W., on Friday, September 9, under the presidency of Mr. T. W. Cowan (Chairman of the Council). There were also present Mr. H. W. Brice, W. Broughton Carr, R. Hamlyn Harris, W. H. Harris, J. H. New, E. D. Till, E. Walker, and the Secretary. Letters were received from Miss Gayton, Messrs. R. C. Blundell, W. O. B. Glennie, J. M. Hooker, P. Scattergood, Jr., and T. J. Weston, expressing regret at their enforced absence from the meeting.

The minutes of the previous meeting were read and confirmed.

Two new members were elected as under:—Miss L. Bosworth, the Firs, Castle Bromwich; Mr. R. T. Daniell, Heath House, Donyland, Colchester.

The Finance Committee reported that since the last meeting of the Council the receipts from various sources amounted to £60 0s. 3d. They recommended payment of a number of accounts, and the report was unanimously approved.

On behalf of the Education Committee Mr. W. H. Harris presented a statement compiled from the reports of examiners of candidates for third-class certificates at the following centres, viz., Bridport, Burslem, Clutton, Derby, Exeter, Hereford, Horley, Leeds, Lincoln, Loughton, Melton Constable, Nottingham, and Swanley. As the result of this report it was decided to grant certificates of proficiency in the third class to the undermentioned candidates: Mr. Barker, A. F. Blackburn, J. Bradley, Florence Broade, A. G. S. Broughton, Mr. Cannon, Ada Mary Cassidy, Joseph Cox, Thomas Earl, Charles W. Emery, Mark Farrant, jun., W. J. Flower, Edward Fox, William Ford, J. J. Goodlett, E. S. A. Gough, William Hutchinson, G. W. Kirby, Lawrence Kitchen, M. Lamboll, J. Lampert, W. Lee, E. S. Lord, Ethel Lutley, J. McKinnon, P. Middleton, R. Edgar Middleton, G. A. Page, Florence Petty, A. E. Pickford, Florence Potter, O. Puck, Grace B. Robertson, E. E. Scholefield, D. Seamer, Jas. Smith, Rev. Sidney Smith, W. Sole, H. Taphouse, Joseph Thomas, J. Trebble, Col. H. J. O. Walker, Mrs. C. E. S. Watson, Bertha Spence-Watson, Evelyn J. Welsford, E. Wide, J. D. Wilcox, Florence E. Worland, G. H. Varty, and W. H. Young. Arrangements were made for further examinations to be held at Swanley on September 10, and at Bradford-on-Avon on September 16 and 17.

Messrs. W. Broughton Carr and W. H. Harris were appointed to judge the exhibits of honey at the forthcoming "Groceries" Exhibition at the Royal Agricultural Hall, Islington, October 1 to 8.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of August, 1898, was £1,929.—*From a return furnished to the* BRITISH BEE JOURNAL, *by the Statistical Office, H.M. Customs.*

DERBYSHIRE B.K.A.

ANNUAL SHOW AT DERBY.

The Derbyshire Bee-keepers' Association held their seventeenth annual exhibition of hives, bees, honey, and appliances, in connection with the Derbyshire Agricultural Society's Show at Derby, on September 7 and 8. Bearing in mind how adverse has been the past bee-season, it may be said this year's show was quite up to the average. This also had the effect of limiting the number of exhibitors, but, taking everything into consideration, it was a very satisfactory show. The judge was Mr. P. Scattergood, jun., of Stapleford, and he was ably assisted by Mr. R. Giles, of Etwall.

Mr. Scattergood also conducted on behalf of the B.B.K.A. an examination of candidates for third-class experts' certificates.

PRIZE LIST.

Single Frame Observatory Hive with Bees and Queen.—1st, G. Richards, Church Gresley; 2nd, G. Pearman, Derby.

Observatory Hive with Bees and Queen.—2nd, G. Pearman.

Display of Honey.—1st, G. H. Varty, Etwall; 2nd, J. Stone, Cubley; 3rd, T. Richards.

Twelve 1-lb. Sections.—1st, G. H. Varty; 2nd,

G. Pearman; 3rd, J. Stone; 4th, G. M. Foster, Brailsford.

Twelve 1-lb. Jars Extracted Honey (light).—1st, J. Pearman; 2nd. J. Stone.

Twelve 1-lb. Jars Extracted Honey (dark).—1st, H. West, Boylestone; 2nd, J. Stone; 3rd, G. M. Foster; 4th, T. Richards.

Honey Produce.—1st, J. Pearman; 2nd, G. H. Varty.

Beeswax.—1st, J. Stone; 2nd, N. Meakin, Newthorpe; 3rd, H. Hill, Ambaston; 4th, G. Thornhill, Bakewell.

Extracted Honey not exceeding 20 lb. (labourers only).—1st, J. Pearman; 2nd, H. West; 3rd, F. Howard, Sudbury.

OPEN CLASSES.

Twelve 1-lb. Sections.—1st, P. Jones, Church Stretton; 2nd, D. Brown, Tamworth; 3rd, J. W. Nelson, Westmoreland.

Twelve 1-lb. Jars Extracted Honey.—1st, John Berry, Llanrwst; 2nd, H. F. Beal, Handover; 3rd, H. W. Seymour, Henley-on-Thames; 4th, E. Warren, Tavistock.

Twelve 1-lb. Jars Granulated Honey.—1st, A. Turner, Ridgewell; 2nd, F. S. Smith, Lough.

Single 1-lb. Section.—1st, W. Patchett, Thorway, Lincs.; 2nd, D. Brown; 3rd, Rev. H. F. Gough, Thorway, Lincs.

Single 1-lb. Jar Extracted Honey.—1st, E. Warren; 2nd, H. F. Beal; 3rd, W. Patchett.

Collection of Appliances.—1st, G. H. Varty; 2nd, E. C. Walton, Newark.

Six 1-lb. Sections.—1st, Rev. H. F. Gough; 2nd, J. Berry; 3rd, J. Stone.

Six 1-lb. Jars Extracted Honey.—1st, J. Stone; 2nd, W. Lee, Southwell.

NOTTS BEE-KEEPERS' ASSOCIATION.

SHOW AT MOORGREEN.

The annual show of bees and honey in connection with the Eastwood, Greasley, and Selston United Agricultural and Horticultural Shows was held at Moorgreen on Tuesday, September 6, and was a decided success. The climatic conditions left nothing to be desired, and the hundreds of visitors who passed through the tent where the honey was staged were delighted with the exhibits, some of which, considering the season, were very good indeed. Mr. P. Scattergood, junior, of Stapleford, was the judge appointed by the County Association, and the following are his awards:—

Observatory Hive, with Bees and Queen.—1st, A. Warner, Moorgreen; 2nd, G. Marshall, Norwell; 3rd, W. Swann, Eastwood.

Six 1-lb. Sections.—1st, G. Marshall.

Six 1-lb. Jars Extracted Honey.—1st, G. Marshall; 2nd, G. Smith, Bradmore; 3rd, G. Bolton, Eastwood.

Six 1-lb. Jars Granulated Honey.—1st, G. Smith; 2nd, W. Lee, Southwell; 3rd, G. Marshall.

Six 1-lb. Jars Extracted Honey.—1st, T. Cooper, Lynncroft; 2nd, G. Bolton; 3rd, W. Swann.

Frame of Honey.—1st, G. Marshall; 2nd, W. Lee; 3rd, W. Swann.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

THE HONEY SEASON IN IRELAND.

A GOOD WORD FOR NO-BEE-WAY SECTIONS.

[3384.] Judging by the various reports and comments on the quality and quantity of honey, this season has evidently been a bad one generally in England, but I am glad to say it has been anything but a bad one in some districts, at least, of Ireland. The ordinary stocks in my apiary have all filled up to five racks of sections and over, besides filling brood chambers, and in some cases four combs had to be extracted to give room for breeding. Most of my strong colonies are now working on the seventh rack of sections worked from foundation only. My brother at Castlefinn has also taken over seven racks off some of his hives. The honey is no doubt wanting in quality to what it was last year, although I have some sections quite as good as last year's produce.

A friend of mine here with only one stock of bees, and attends to them seldom, has taken six racks of filled sections, and they are working busily on a seventh, while the combs in brood-chamber are all filled. A couple of years ago I cured this stock of foul brood, and the following season they gathered four racks of sections. Skep bee-keepers have also had a splendid season, as the honey flow was exceptionally good up to August 26.

For myself I have got a fine lot of the new no-bee-way sections filled splendidly; most of them weigh a full pound, and some over. Nearly every one will pack together without damage to the comb, and look well when glassed. As far as my experience goes I believe them to be a great improvement to the ordinary ones. I would like to hear from other bee-keepers who have used them this season.

May I ask if it is a usual thing for young queens to lay eggs before getting fertilised? I have had one do this this season for the first time in my experience. I never saw this done before, except a drone breeder, and that was what I took this one to be, for she had three or four frames partly covered with drone brood so I searched her up to see if her wings wer

deficient, and to remove her; but she was such a nice-looking queen I decided that I would give her another chance. Next time I examined, the drone-breeding had given way to worker brood. I also saw that the bees were removing some of the drones.—S. CRAWFORD, *Castlederg*.

[We fear our correspondent is mistaken somewhere; our own experience being that once a queen begins to lay she never leaves the hive for mating purposes.—EDS.]

DRIVEN BEES DECAMPING.

OH WHERE, OH WHERE CAN THEY BE?

[3385.] A fortnight ago, having ten worked-out frames with a little bit of honey in, for which I had no other use, I thought them the very thing to start some driven bees upon. I procured a new hive and placed the frame in, put on the quilts, closed the entrance-slides, and stood it alongside of other hives in the garden. In a few days I discovered that some bees had found a way in behind the entrance-slides, along a space that most men would have thought impossible for a bee to crawl, and were busy clearing out the small quantity of honey there was in the combs.

I at once took off the quilts, stuffed up the above-named cracks with rag, on which I put some carbolic, also sprinkled some carbolic solution on the sides and front of the hive. In the meantime I had ordered some driven bees. These bees were despatched from Mr. Brown, of Somersham, on September 1, and arrived here on the 3rd. As I could not attend to them on that day and thinking they would be hungry after their long journey, I gave them a bottle of syrup, which they quickly despatched. On the following morning, at seven o'clock, I took them to the garden and found a few robbers still hovering round the hive, so I removed it to a new stand, ten yards away, and placed a box on the place where the hive stood as a decoy and to draw the attention of these robbers from the hive. I put on the quilts and a bottle of syrup on the feed-hole, made all snug above, opened the entrance and threw the bees in front in the usual way. They quickly commenced to go in, and when I left them to get my breakfast they were streaming up into the hive. I saw a few wasps about, but thought nothing of that. When I returned at mid-day the bees had apparently all gone in, so I closed the entrance to about two inches, as I noticed a bit of scuffling, as if robbers were trying to enter, but not more than one can see at the entrance of a strong hive at any time when robbers are about. I may say that I had five pounds of bees, so they ought to have been able to take care of themselves. Now comes the most curious part. I visited them again in the evening, and on lifting the quilt partly off to see how many seams of bees there were, behold there were only about a handful of bees in the hive, and they were nothing but robbers. The driven bees were gone! They had not been killed, because there were only two or three dead bees in the hive. I am puzzled over it. Where did I make a mistake, and what has become of the bees? Please, Mr. Editor, can you tell me, and so provide an answer to my plaint of "Oh where, oh where can they be?"—J. P. D., *Cockermouth, September* 7.

[From the details given it would appear as if some mishap had occurred to the queen with driven lot.—EDS.]

DESTROYING WASPS' NESTS.

[3386.] I notice your correspondent, Mr. Bellairs (3375, p. 347), recommends for the above purpose a deadly poison, which, however useful it may be to a scientific collector, is unfit and altogether unnecessary in such a case as this. Another relates a case in which hot tar was used. May I be allowed to say that for the purpose referred to all that is really necessary is to saturate well a piece of rag (for each nest) in turpentine; then, after dark, go with a lantern and by means of a stick push the prepared piece of rag into the nest, or if more than one entrance to nest used, into each of them, and without loss of time place a piece of turf on the opening and stamp it down. Immediately this is done an ominous murmur will be heard; and as soon as you have done, say, six nests, the first will be ready for digging out. I once took a hornet's nest from the roof of a summer house with turpentined rags placed on what had somewhat the appearance of a mortar hod, and by means of its long handle it was hoisted up to the awkward corner of the roof. I believe that paraffin would do, but I have generally used turps. It is not necessary to light the rags; in fact, this would defeat the end in view.—F. V. HADLOW, *Buxted, Sussex, September* 8.

"TREE-BANDING,"

SPRAYING TREES WITH ARSENICAL LIQUIDS.

[3387.] The last number of the *South-Eastern Agricultural College Journal* contains an article headed "The uselessness of tree-banding." I must say my experience of the remedy is that it has not answered expectation, and as there are moths, *not* wingless, which gain access without having to ascend the trunk, the "banding" *is* comparatively useless. I wrote to Mr. F. V. Theobald, at Wye, the Honorary Entomologist of the K. & S.B.K.A., expressing the fear that the alternative remedy of syringing with Paris green or London purple would be fatal to the bees. He replied that I need not fear this, and adds: "I do not think there is *any* danger with arsenical washes in regard to bees, because spraying the *blossom* is fatal (to the fruit), and it is only then that the bees can be poisoned."—E. D. TILL, *Eynsford, Kent, September* 8.

(*Correspondence continued on page* 366.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

The apiary illustrated below belongs to Mr. W. E. Nutley, and is situate at Dalton, Thirsk, in the North Riding of Yorkshire. Like other parts of the county there are less of trees than thebroad acres for which the county is famous, and in consequence, that queen of bee flowers, white clover, is plentiful in the pastures and hayfields everywhere around; so it goes without saying that the district is a good one for honey—or to put it even plainer—is one for *good honey*. Writing to us of the place and of himself Mr. Nutley says:—"I began bee-keeping about seven years ago, and owe my initiation into the mysteries of the craft to our respected clergyman the Rev. C. E. F. Rees, an enthusiastic and skilful bee-master, well practised in all that pertains to successful bee-culture. The photo enclosed was taken in January and thus shows how the place looks in winter, being an old orchard with but few trees save on the north side. The bees, however, while protected from cold winds by trees and high fences, have a free and uninterrupted flight in front without any interference or cause of trouble in that way, and a shallow stream of good water runs within a few yards of my apiary. Owing to the large acreage of clover grown in the meadows and pastures it is a good district for honey, the orchards of apple, pear, and plum trees helping the bees along in the early season before clover is available. I am told that in years gone by nearly every cottager about here kept a few skeps and piously 'smoured' them each autumn by means of the orthodox brimstone rag. Of all these old time bee-men, but one remains along with myself to represent the respective methods of ancient and modern bee-keeping in the place.

"Personally, I must also acknowledge my indebtedness to your journals for much of what I know about bees. Nor need I tell our Editor that I am an expert of the B.B.K.A., having been examined by himself at the 'Royal' Show, Darlington, for my 3rd class certificate in 1894. My hives, though of different shape, take only the Standard frame, and are all my own handiwork. So far I have been successful in getting satisfactory crops of good sections and extracted honey. Regarding our market, we have a little of the trouble felt by bee-keepers in other counties, but I find it best to cultivate a trade with private customers, putting up my produce neatly in glass jars and selling only good sections all labelled uniformly with my name and address as sample label enclosed. I also make a point of exhibiting at all available shows in the neighbourhood, and am assisted in this line by the fact that most of our Agricultural and Horticultural societies now include prizes for honey in their

MR. W. E. NUTLEY'S APIARY, DALTON, THIRSK.

schedules, of which I usually manage to secure a share. This brings my produce well before the notice of buyers, and business results, which I take care to foster once a customer has been secured. My apiary is also within reach of our Yorkshire moors, and when a good heather season occurs, this is of much advantage. Bees have not done much at the 'ling' for a few seasons past, but the present prospects are good from that source."

We need add nothing to the above details, which no doubt will be found interesting as not only serving to adorn a tale, but pointing a moral to readers who have honey to sell.

CORRESPONDENCE.

(*Continued from page* 364.)

REMEDIES FOR BEE STINGS.

[3388.] I must thank your several correspondents who have replied to my query *re* the above, especially for the medical opinions offered. I knew most of the remedies suggested from reading the "Guide Book," but it was not so much a remedy to be used at once that I wanted, as one to allay the swelling.

It is all very well for friend Loveday to talk about "those who live by their bees taking stings with the rest"; but how many of your readers depend upon their bees for their living? I take it that the majority of us keep bees more for pleasure than profit, our takes of honey being small, either through poor districts, or (as in my case) being located near town, just a four or five-stock apiary for our home honey supply. Now, with a "bee-farm" like this, you do not, if careful, get sufficient stings to become inoculated; and I may say for the benefit of the writer who advises using a veil, that I always wear one when manipulating, and by using a good smoker and carbolic cloth I have not once been stung this season when handling my own bees. The sting for which I sought advice was an unprovoked attack while standing some distance from the hives. Since then, while holiday-making in the West, I had rather a warm time while doing a little rustic bee-keeping. The job was to drive and unite two stocks in skeps and put them into a bar-frame (appliances *nil*). Luckily I found a pair of bellows and a coffee-tin, and constructed a "patent smoker," but, of course, this took both hands to work it. The task was successfully accomplished with only three stings, which were taken as they came, the swelling going down before I got back home. I don't mind the stings or the swelling, what I object to is this: When you return to an occupation less congenial than bee-keeping, with bumps not shown on the phrenological chart, some one says: "Hello, what have you been up to?" or "Bees again!" or "Look here, old chap, I should bind him over to keep the peace," and other more or less "witty" sayings, besides the difficulty of working with an eclipsed optic or a hand like a pudding.

In addition to the remedies so kindly suggested in your columns, here are two others: sal volatile applied at once, and a hot poultice of marshmallow leaves to allay the swelling afterwards. These are both worth knowing, speaking from my own experience.—F. C., *Derby, September* 12.

THE GEDLING COMPENSATION FUND.

In response to our request for information as to the duly appointed treasurer of the fund being raised in Notts for compensating the owner of horses, Mr. McKinnon—who along with Mr. Trimmings is joint owner of the bees which caused the regrettable accident at Gedling—writes as follows:—

In reply to yours of the 9th inst., I beg to send you the name and address of our Notts B.K.A. secretary—Mr. George Hayes, 48, Mona-street, Beeston, Nottingham. Both Mr. Trimmings and myself think that Mr. Hayes is the proper person to act as treasurer of the fund subscribed to by bee-keepers, and, together with Mr. A. G. Pugh, to represent the bee-keepers on the committee of adjustment.

Up to date I have personally received £10 16s. 3d., which I will hand over to Mr. Hayes, and this sum will, with your permission, be added to the BEE JOURNAL and *Record* fund, making a general fund subscribed by bee-keepers or members of bee-keepers' associations.

Mr. Trimmings joins me in thanking you most cordially for your support, and also for the trouble and interest that our Editors have so kindly taken in the unfortunate occurrence in which we are so deeply involved. I may, however, take this opportunity to say, without fear of contradiction, that not a shadow of blame can be attached to either Mr. Trimmings or myself. On the other hand, it only proves more conclusively how advantageous it is for everyone to possess at least some knowledge of bees and their nature. If the men in charge of the horses had possessed even the most elementary knowledge of the subject that might be imparted in all schools, the accident to which we refer would not have occurred.

You will find it difficult to believe me when I tell you that the owner of the horses stung knows so little about bees as to claim that there were "king bees" among those which stung his horses to death.—J. MCKINNON, *Gedling, Notts, August* 12.

[We think the above arrangement cannot be improved upon, and if the few gentlemen whose promised subscriptions still remain due will kindly forward the amounts, the matter, so far as we are concerned, shall be wound up at once.—EDS.]

METEOROLOGICAL.

OBSERVATIONS TAKEN AT DUDDINGTON, STAMFORD, NORTHANTS, FOR THE WEEK ENDING SEPT. 10, 1898.

1898.	Bar. in.	Tem. 9am deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in
Sept. 4....	30·41	65·2	81	51	30	65·3	—
,, 5....	30·36	67·9	80	55	25	66·9	—
,, 6....	30·23	64·5	81	60	21	70.0	—
,, 7....	30·08	63·9	85	52	33	67·7	—
,, 8....	30·04	74·5	90	64	26	76·4	—
,, 9....	29·90	69·5	78	55	23	65·9	—
,, 10....	30·00	61·5	70	52	18	60·6	—
Means	30·15	66·7	80·7	55·6	25·1	67·5	*—

* Total, nil.

The mean vapour tension for the week is 0·552 in.; mean relative humidity, 83 per cent.; mean temperature of the dew point, 61°·7. For the week ending September 3, the mean temperature, viz., 58°·0, was −0°·9; and the rainfall, viz., ·14 in., −·36 in. The rainfall, July 31 to September 3, viz., 2·97 in., is +·14 in.; and that, January 2 to September 3, viz., 12·24 in., −3·93 in.

FRED. COVENTRY.

THE WARM SUMMERS OF 127 YEARS.

SIR,—I am indebted to a friend for the accompanying report of the mean temperature of the warmest summers during the past 127 years, 1771 to 1898, deduced from Mr. Glaisher's tables and the Royal Observatory Records, the summer comprising the months of June, July, and August.

I am, Sir, your obedient servant,

FRED. COVENTRY.

Duddington, Stamford, September 7.

Mean temperature of the warmest summers during the past 127 years, 1771 to 1898, deduced from Mr. Glaisher's tables and the Royal Observatory Records, the summer comprising the months of June, July, and August.

Year.	Mean of Three Months. Degrees.	Warmest Month.	Degrees.
1778	63.93	July	67.0
1780	62.67	August	65.7
1781	63.60	July	65.3
1818	64.23	July	66.2
1826	63 97	July	65.6
1834	62.50	July	64.1
1835	62.57	July	64.4
1842	62.83	August	65.4
1846	64.30	June	65.2
1857	64.03	August	65.8
1858	62.53	June	64.9
1859	64.33	July	68.1
1868	64.37	July	67.5
1870	62.47	July	65.4
1876	62.70	July	65.9
1884	62.23	August	65.3
1887	63.30	July	66.5
1893	63.47	August	65.5
1896	62.60	July	65.2

September 9, 1898.

Echoes from the Hives.

Soham, Cambs, September 11.—We have extracted a grand total of 210 lb. from the hive belonging to the keeper, which, I think, is pretty good considering the bad season. My own ten stocks have averaged 80 lb. each; the best gave 150 lb., another 130 lb., and a third 110 lb. If only the early part of the season had been favourable, it would have been a splendid year.—C. D. G.

Queries and Replies.

[2101.] *Bees Building Combs Outside Hives.*—One of my hives has behaved in a most extraordinary manner this year. My attention was drawn one day to a large cluster of bees (apparently) hanging under the alighting-board. On examination I found that they had built nine combs, the largest about 12 in. long by 6 in. deep, under the alighting-board, and also right under the floor of the hive. I found the supers were crammed with honey, and extracted 92 lb. The bees, however, still hung under the hive, so a few days after I removed the combs mentioned. All but the outer combs were filled with brood in all stages, from the egg to the hatching bee. After searching for some time I found the queen, and returned her to the hive. The next day a quantity of bees still remained clustered under hive, so in the evening I smoked them well, and eventually they all ran back into the hive, and joined the other bees without any fighting. This was about three weeks or a month ago, and since then they have made no attempt to cluster again, but seem to have been at work very hard. Isn't this a rather unusual case? 2. Can you tell me the best way of preserving super-combs through the winter? I always keep them in a cupboard, but the wax-moth gets in and spoils a number of them. 3. If a stock wants requeening would it answer to kill the reigning queen about the middle of July, and let the bees raise another themselves? One stock of bees which I look after for the owner has done very well. So far we have taken 192 lb. of honey (extracted). This stock is made up of four lots of bees, which I drove for him last autumn and united. Honey-dew has not troubled me at all this season. 4. What is your opinion of two samples of honey sent herewith?—C. D. G., *Fordham, Cambs.*

REPLY.—1. In some seasons, without any visible reason except lack of room, bees do take it into their heads to build combs in the open air. This year we have several instances of this habit, and hope to illustrate a

case shortly from a photo. 2. Only by keeping them in a warm cupboard. Moths, however, must be carefully excluded from the combs by wrapping up well. 3. Yes, so long as there is plenty of eggs and brood when queen is destroyed. 4. No. 1, though rather thin, is a nice honey. No. 2 is of better flavour than 1, but otherwise much the same.

[2102.] *Dealing with Foul Brood.*—1. Is it unusual to see a bumble bee force its way into a strong stock of bees, presumably robbing? 2. In reference to "Bee-keeping" (page 354), does Mr. Brice not advocate wide spacing of frames for wintering? I was pleased to see his remarks as to obtaining a knowledge of foul brood before you get it, and as to "immediately an outbreak is detected get the bees off the combs, and into a clean hive, and burn the infected combs." I presume he prefers to do this even if one or two cells only were infected in one comb, and that he would consider *all the other combs infected?* 3. Also, that he thinks Mr. Berry's giving "twenty-one days for bees to hatch-out" too risky, and would destroy all brood? and that supposing, after the bees are on new combs and requeened, the same slight outbreak occurred again, that he would promptly repeat the operation as to new combs, but not requeening? I like his advice to requeen *after* getting the bees on to new combs. It looks much safer than Mr. Berry's way of requeening *before* shaking the bees off their old infected combs (page 335). 4. Does Mr. Brice advise the starving for forty-eight hours before rehiving?—G. M. S., *Keswick, September* 11.

REPLY.—1. Humble bees may occasionally be seen entering hives, but we don't remember seeing them force their way in as wasps do. 2. We do not think Mr. Brice practises wide spacing of frames in winter. 3. Mr. Brice will, we fancy, agree with ourselves in seeing no appreciable risk in the plan adopted by Mr. Berry of allowing all young bees to hatch out before re-queening. 4. Perhaps Mr. Brice will have a word of reply to add to what we have said above; but Mr. Berry's wide experience with foul brood, and his success in dealing with it should carry considerable weight with those who know what success in treating foul brood means.

Bee Shows to Come.

October 1, at Hawick, Roxburghshire, B K.A. Annual Show of Honey at the Town Hall. **Twenty-five open classes for honey,** &c. Single payment of 2s. for any number of entries. Schedules from Thos. Clark, Sec. Pleasants Schoolhouse, Jedburgh, N.B.

October 1 to 8, at the Agricultural Hall, London.—Honey Exhibition in connection with the Third International Exhibition of the Grocery and Kindred Trades. Classes (for Master Grocers only) for Sections and for Extracted Honey. (See advt. on p. iii.)

October 5 and 6, at the Public Hall, Caterham Valley, in connection with the Caterham Fanciers' Show. Honey classes open to Sworey, with liberal prizes for Twelve 1-lb. Sections and for Twelve 1-lb. Jars Extracted Honey, also for Wax. Schedules from J. Kilby, Caterham Valley. *Entries close September* 21.

October 18 to 21, at the Agricultural Hall London.—Show of Honey and Bee Products, in connection with the British Dairy Farmers' Association Liberal prizes for honey, &c. Schedules from Wm. C Young, Sec., 12, Hanover-square, London, W. **Entries close September 19.**

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

P. W. (Coleford). — *Wintering Bees in an Empty House.*—1. Our advice is to leave the bees on their present stands. Experience has abundantly proved that bees winter best outside in this country. 2. Queen sent is old one of the ordinary or common variety. We cannot account for queen being found under the floor-board unless she dropped on to the ground during the manipulations the day previous. 3. We cannot distribute foul brood broadcast by sending samples for a penny stamp. It would be a most dangerous thing to do.

Referring to lectures on Bees and Bee-keeping, Mr. Alfred Watkins, Hereford, writes to say that a lecture on the subject is published (price 6d.) by Messrs. York & Son, Notting Hill, London, to go along with their set of lantern slides, from Mr. Watkins' negatives. The lecture on the same subject, published some years ago, is, we believe, now out of print.

J. BERRY (Llanrwst).—*The Grocers' Exhibition.*—1. You had better write on your printed memorandum to the managing director whose address appears in the advertisement. He will, we think, see no possible objection to your entry. 2. Heather honey would scarcely stand a chance of winning in such a competition.

J. BRADLEY (Chingford).—*Help in Driving Bees.*—We are very pleased to get your offer—along with others—to help "A. B.," but as a gentleman has already been put in communication with him, the matter may now be considered as settled.

C. X. (Somerset).—*Breeding Queens, Drones, &c.*—1. Queens and drones should not be bred from one stock. 2. A good stock of bees will produce enough drones without your

troubling to give drone comb at all. 3. In queen-rearing foundation will answer for the reception of young larvæ if combs are not available. Queen will not lay in foundation but will wait until it is drawn out into combs. 4. Cut out drone comb in spring. 5 and 6. If you are not experienced enough to find queens when wanted you must get some one more capable to search for you. 7. All you can do is to carefully search the combs until the queen it is desired to remove is found ; having done this, you can introduce the new queen in forty-eight hours.

NOVICE (Kimbolton).—*Honey Samples by Post.*—After the remarks we felt bound to make, on page 291 of our issue of July 28 last, as to the exercise of a little care in packing samples of honey by post, our correspondent must pardon us for declining to to do more than extract his letter from the running honey—which has made a sticky mess of a large batch of our morning letters and of the postman's hands—wash it for deciphering and throw the rest away unexamined. We offer no apology for so dealing with the samples. It is bad enough to handle combs containing dead brood in various stages of offensiveness ; but we must draw the line somewhere, and we draw it when sliced off pieces of comb containing running honey are handed to us as the ones referred to were.

R. D. (Terling).—*Bees Overdosed with Naphthaline* —1. The symptoms of overdosing are small holes left in cappings, through which holes the white heads of the larvæ are visible all over the surface of combs. 2. We never heard of treating foul brood with "Condy's fluid," which we take to be permanganate of potash.

R. M. (Bridge of Allan).—*A Scotch Bee-case.* —The matter referred to in cutting sent is interesting, and no doubt the Perthshire clergyman has been rather severely reported by a hostile hand. But, while thanking you for sending, we have not room in our columns just now for the long report.

E. L. (Norton, Chipping).—*Cones for Clearing Bees from Supers.*—A good super-clearer is so much more efficient for the purpose than cones, that in all likelihood the latter will soon go out of use. Those who still pin their faith to cones should, however, take care and not have them too short, or bees will soon learn the way *in* as well as out.

G. N. (Canterbury). — *Guarding against Disease* —1. Care and caution is always most helpful in guarding against foul brood, and what you have done is a step in the right direction. 2. Yes, the driven lot will help the others in the way desired.

M. DEMPSEY (co. Kilkenny).—*Soluble Phenyle.* — The liquid you purchased labelled "Phenyle, poison, not for internal use," cannot be the "soluble phenyle" recommended in "Guide Book," because the latter is *non-poisonous.* It is prepared by Messrs. Morris, Little, & Son, Doncaster, and "sold by all chemists," according to advertisements.

W. A. (Ambleside).—*Wax Samples.*—No. 1 is a good wax for household purposes, but not nearly equal to No. 2 for quality. No. 1 has too much pollen in it for many commercial purposes, where pure bees-wax is required.

H. M. S. (Lancashire).—*Suspected Combs.*—Brood in comb has evidently been chilled some time ago ; we find no disease.

NEMO (Oxon).—*Uniting Bees.*—As there is brood in both skep and frame-hive, an examination only can decide where the queen is. The bees will not swarm now as you think. Drive the bees from skep, and if queen is therein, join the driven bees to those in hive, place excluder above frames and replace the skep until the brood has hatched out, then remove for good. It is now too late for raising queens.

F. S. H. (Sutton).—*Honey Candy.*—Make candy as per recipe for "Good's candy" as given in "Guide-Book," mixing finely powdered sugar with the honey—after partly remelting it—until it forms a stiff paste. A strong colony will consist of from forty to sixty thousand bees in summer time.

H. F. (Brighton).—*Excluder Zinc.*—1. The excluder must be removed to enable you to ascertain the condition of bees before winter comes ; besides they may be short of food or even diseased. Do not replace excluder again before next year, but clean it ready for use ; neglect of these matters points to slovenly bee-keeping. 2. The way frames hang in hives is a matter of personal preference, but experience has shown that bees winter better on frames hanging at right angles to entrance, hence the general adoption of that plan. 3. Good queens begin to breed very early in a new season, and bad queens would let a stock down in spring before a new one could be obtained. 4. Failing or weakly queens never produce colonies strong enough to swarm.

ANXIOUS (Westbury).—*Honey Beverages.*—The Rev. G. Bankes, Dartford, Kent, publishes a pamphlet on this subject for a few halfpence. See advertisement columns.

MRS. C. A. P. (Fermoyle) and C. E. WATSON. —*Soluble Phenyle.*—We are returning stamps. See reply to M. DEMPSEY.

J. M. G. M. (Chesston).—*B. B. K. A.*—Write Mr. E. H. Young for particulars as to membership of B. B. K A. The minimum subscription is 5s.

*** *Some samples and parcels still remain unopened for want of time to attend to all, but where possible post replies will be sent and remainder dealt with next week.*

Special Prepaid Advertisements.

Twelve words, Sixpence; for every additional Three words or under, One Penny.

HONEY JARS, 1-lb. screw-cap, 15s. per gross. JAS. DYSON, Stainforth, Doncaster. X 5

FOR SALE, 3 cwt. Extracted HONEY. Sample 2d. W. G. KIGHT, Chisledon, Swindon.

DRIVEN BEES. A few more lots (with queens), 3s. per stock. PULLEN, Ramsbury, Hungerford. X 30

HONEY in self-closing tins of 7 or 4 lbs., 6d. lb. Tins free. OLDHAM, Stanford, Worcester. X 39

FINE CLOVER HONEY. 1-lb. sections. What offers? G. DOWNER, Drayton Manor, Chichester. X 37

LIGURIAN QUEENS, now ready for delivery, 5s. each. WEBSTER, Binfield, Berks. W 28

EXTRACTED HONEY, in ½ cwts., 3d. lb. Tins free. Sample 2d. Deposit system. RICHARD DUTTON, Terling, Witham, Essex. X 35

FOR SALE, 20 or 30 SWARMS, average weight three stone, in Straw Hives, 10s. each. J. CHAPMAN, Hawnby, Helmsley. X 32

VERY STRONG three-frame NUCLEI, young tested queens, plenty of bees, make strong stocks quickly. 12s. 6d. on rail, cases returned. ALSFORD, Expert, Blandford.

PROLIFIC QUEENS, 2s. 6d. each. Three-framed Nuclei, 10s. 6d., packages free. E. WOODHAM, Clavering, Newport, Essex. X 34

TO CLEAR, NINE DOZ. 1-lb. SECTIONS, 7s. per doz. Cash or deposit. NIGHTINGALE, Doddington, Cambs. X 40

FOR SALE, four strong Stocks in bar-frame hives, three Swarms, two Driven Stocks in skeps in good health. JOHN R. SMITH, Kexbro, Barnsley, Yorks. X 31

QUEENS, a few young ones at 3s. 6d. each. Guaranteed healthy and fertile. A. SIMPSON, Mansfield-Woodhouse, Notts. X 4

FINE SELECTED ENGLISH QUEENS, tested, 5s. each, sent in introducing cage. W. WOODLEY, Beedon, near Newbury.

HEALTHY DRIVEN BEES, 1s. 3d. lb., in 4-lb. or 5-lb. lots. Boxes to be returned, or 2s. extra. E. LONG, Fulbourne, Cambs. W 83

THOS. J. HORSLEY, has comfortable APARTMENTS for brother bee-keepers visiting the Isle of Man.—Merridale House, Empire-terrace, Douglas, Isle of Man. W 27

DRIVEN BEES, with Young Queen, at 1s. 3d. lb. Box returned or charged 1s. Will quote for second swarms and young queens. E. GARNER, Broom, Biggleswade, Beds. W 99

QUEENS RAISED under most favourable conditions 5s. each, with introducing cage. Post free. Safe arrival guaranteed. Importer of foreign queens. Address, Rev. C. BRERETON, Pulborough, Sussex.

FOR SALE, on account of moving, six Swarms Bees four Bar-frame and two Skep Hives, stocked for winter, also 50 Sections Honey. Inspection invited. R. M. GARNIER, Boys Hall, Ashford, Kent. X 38

TO MASTER-GROCERS and OTHERS.—THREE CWT. of EXTRACTED HONEY. Good colour, and well ripened. Sample 3d. W. T. FRYER, Gordon-road, High Wycombe. X 33

FOR SALE, eight HIVES, and one 10-bar OBSERVATORY HIVE, nearly new, with healthy stocks. Comb box and rack, &c. Quantity honey in metal-cap bottles. Owner going abroad. Address, VICAR, Biggleswade, Beds. X 36

Prepaid Advertisements (*Continued*).

FOR Sale.—50 lb. good quality EXTRACTED HONEY, 8d. lb. S. M., Buntingford Station, Herts. X 41

DRIVEN BEES.—I have a few lots FOR SALE at 1s. 3d. per lb. in 4 or 5 lb. lots with young queen. Boxes to be returned carriage paid. Also young fertile QUEENS 2s. each, post free. Safe arrival guaranteed. A. J. CARTER, Billinghurst, Sussex.

SMALL SWARMS with young fertile queens for building up or uniting to queenless stocks, 5s. 6d. case included, on rail. Fertile queens 3s. 9d. each, delivered. ALSFORD, Expert, Blandford.

LACE PAPER for GLAZING SECTIONS, in several neat patterns and colours (white, pink, and French grey). 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. W. WOODLEY, Beedon, Newbury.

THE extraordinary fine weather so late this year enables me to offer 100 TESTED 1898 QUEENS, specially raised (now laying well), at 5s. 6d. each. Post free in my perfected travelling and introducing cage. Quality and safe arrival guaranteed. HENRY W. BRICE, Dale Park-road, Upper Norwood.

DAFFODILS. Fine home-grown bulbs. Per 100:—Sir Watkin, 10s.; Emperor, 15s.; Horsfieldi, 9s.; Barri Conspicuus, 10s.; Telamonius plenus, 2s. 6d.; Snowdrops, 1s. 6d.; Crocus, 1s. per 100. SANDS, Rednal, Worcestershire.

HEALTHY DRIVEN BEES, with young Queen, at 1s. 3d. per lb., not less than 4-lb. lots. Boxes to be returned, carriage paid. Also young Fertile Queens, at 2s. each. Free by post. R. BROWN, Flora Apiary Somersham, Hunts. W 76

BEES of my well-known strain, fine tested 1898 Fertile Queens, 3s. 6d. each, safe arrival guaranteed. Strong three-frame Nuclei with Queen, 10s. 6d. Guaranteed healthy. WHITING, Valley Apiaries, Hundon, Clare, Suffolk. W 42

THE SCOTTISH BEEKEEPER.

PUBLISHED FORTNIGHTLY. **3s. 3d.** per annum, Post free.

Send stamp for specimen copy of current number. It will please you.

WILLIAM ORMISTON,
BIGGAR, N.B.

MR. H. NEWSOME BAXTER,

Sedbergh,

Bees, Honey, and Appliances.

Fine Photograph of a portion of a Comb affected with

FOUL BROOD,

TAKEN DIRECT FROM THE COMB BY

T. W. COWAN, F.L.S., &c.

Price One Shilling, Post Free.

Bee Journal Office, 17. King William-st., Strand, London.

DAIRY SHOW, LONDON,

OCTOBER 18th, 19th, 20th, and 21st.

LIBERAL PRIZES for HONEY, &c.

REDUCED FEES TO MEMBERS B.B.K.A. and Members of Affiliated Societies.

ENTRIES CLOSE SEPTEMBER 19th.

WM. C. YOUNG, Secretary,
12, Hanover-square, London, W.

Editorial, Notices, &c.

THE CLOSING HONEY SHOWS OF 1898.

Two most important honey shows will be held in London during the next few weeks at the Agricultural Hall. We refer to the "Grocers' Exhibition" and the "Dairy Show," the former opening on Saturday, October 1, and closing on the 8th, and the "Dairy Show" which occupies the four days between the 18th and 21st of the same month. The "Dairy" (as bee-men term it) is so well known and so popular that a good entry is no doubt already assured, but for the new venture this is the *last day* for making entries, and it is to this fact that we now draw attention.

ROXBURGHSHIRE B.K.A.

ABANDONMENT OF THE ANNUAL SHOW.

The secretary of the above Association writes us as follows :—"Pleasants Schoolhouse, Jedburgh, N.B., September 15, 1898. I regret very much to inform you that at a special general meeting held on Tuesday, the 13th inst., to consider the question of the annual show and the inferior quality of flower-honey gathered this season, together with the scarcity of heather-honey, it was decided to abandon the exhibition for this year.

"Our show is held by itself, and honey is, therefore, the chief attraction, and under the adverse circumstances referred to above it was deemed impossible to make anything like a satisfactory display, and in consequence it was decided to cancel the show, as being the best policy for all concerned.

"You will, therefore, now favour us by withdrawing our announcement from list of 'Shows to Come,' and further oblige by intimating to readers that it has been cancelled.—Yours faithfully, THOS. CLARK, Secretary."

HEREFORDSHIRE B.K.A.

HONEY FAIR AT HEREFORD.

The fourteenth annual honey fair under the auspices of the Herefordshire Bee-keepers' Association, which was held on Wednesday, the 8th inst., was very largely supplied. The quality was under the average, about half being dark on account of honey-dew. Mr. J. Williams, of Stanner Station, a new competitor, took the champion silver medal and other principal prizes, the honey in his district being specially good this season. The judges were Messrs. J. Palmer (Ludlow) and E. J. Burtt (Gloucester), whose awards were as follows :—

Exhibit of Honey, not over 100 *lb.* (open).—1st, F. Mailes ; 2nd, T. M. Meadham.

Exhibit of Honey, not over 50 *lb.* (novices).—G. Griffiths.

Twelve 1-*lb. Jars Extracted Honey* (open)—1st, J. Williams ; 2nd, Mrs. Blaskill ; 3rd, Miss M. Wootton.

Six 1-*lb. Jars Extracted Honey* (novices).—1st, J. Williams ; 2nd, W. J. Spencer ; 3rd, T. M. Meadham ; h.c., H. Pewtress ; c., F. Hills.

Twelve 1-*lb. Sections* (open). — 1st, C. Edwards ; 2nd, Mrs. Blaskill ; 3rd, T. M. Meadham.

Six 1-*lb. Sections* (novices).—1st, J. Williams ; 2nd, F. Hills ; 3rd, W. G. Lewis.

Three Combs Honey in Shallow-frames.—1st, C. Edwards ; 2nd, W. Tomkins.

Exhibit of Honey in any shape (bonâ-fide cottagers only).—1st, Thos. Hughes ; 2nd, Thos. Pewtress.

Exhibit of Honey, not over 12 *lb.* (in sections or jars).—(Champion prize).—1st, J. Williams ; h.c., R. Pearce. Special prize for collection, H. Pewtress.—(*Communicated.*)

IRISH BEE-KEEPERS' ASSOCIATION.

The committee met on the 15th inst. Present, Mr. Farrelly in the chair, Mr. Watson and Mr. Chenevix (hon. sec., 15, Morehampton-road, Dublin). It was decided to increase the commission on the retail sale of sections at Cork from 15 to 20 per cent., and to advertise the Cork depot.

Six National school teachers having recently passed an examination in bee-keeping at Glasnevin, it was resolved to certify them to the Commissioners of National Education as competent to teach the subject to children.

DEATH OF THE EARL OF WINCHILSEA.

PRESIDENT OF THE LINCOLNSHIRE B.K.A.

Bee-keepers have special cause for regret at the death of the Earl of Winchilsea, which took place on the 8th instant at Haverholme Priory, near Sleaford. Actively interested in everything connected with the outcome of the land, his lordship gave of his time and means in promoting home agriculture, and laboured so hard in what some called his hobby that his work may be truly said to have hastened his death at the early age of forty-seven years. Our personal knowledge of his lordship was brief, but sufficient to show how ready he was to extend his help to bee-keeping when he took the chair at our meeting on the occasion of the "Royal" Show at Darlington in 1895. His speech on that occasion was so heartily sympathetic with the best interests of our craft that, as we have already said, bee-keepers generally, and the Lincolnshire B.K.A., of which he was President, will deeply feel his loss in common with other agriculturists of every class.

Referring to the sad event, the hon. sec. of the Lincs. B.K.A. writes us as follows :—

Tothill, Alford, Lincs.
September 16, 1898.

DEAR SIRS,—It is my sad duty to

announce the death of the Right Hon. the Earl of Winchilsea and Nottingham, President of the Lincs. B.K.A., which occurred on Wednesday, September 8, and he was laid to rest in the family vault in Ewerby Churchyard on the Monday following, with every sign of respect and sorrow from a large concourse of people of every class. His lordship has been our president for a few years only, he being elected at the time when his health began to show signs of breaking down; and it was to our great loss that since his election he has not been allowed by his medical advisers to attend any public meeting; but he had our cause at heart and took great interest in his bees at the "Cable" Farm, and also in the work of our Association. Agriculturists and bee-keepers alike are indebted to Lord Winchilsea for the interest he took in getting the railway rates reduced for the carriage of agricultural produce to large towns, and many other things in connection with agriculture. The columns of the BEE JOURNAL are hardly the place in which to enumerate his many good and lasting qualities, but I may say that agriculturists of every grade have lost a good and true friend, and his place as President of our Association will be difficult to fill.—R. GODSON, Hon. Sec., Lincs. B.K.A., *Tothill, Alford.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted will oblige by mentioning the number of the letter, as well as the page on which it appears.*

DRIVEN BEES DECAMPING.

A LIVELY EXPERIENCE.

[3389.] Referring to the letter of your correspondent (3385, p. 364) last week, allow me to quote my experience:—On a recent Saturday afternoon I drove four lots of bees, and being too late to hive them the same evening kept them in the "bags" till Monday, when I commenced to hive them in a long box previously fitted up inside to take the standard frame. The box was divided into four compartments with dummy boards between each, it being my intention to winter the bees there while making hives to form their permanent homes during the dull months of winter. Now for the results of the "performance." No. 1 was hived without a hitch at one end of the "box." As the bees settled down I went on at the other end, hiving a driven lot in that compartment. This "lot" had a young queen, the stock which it formed having thrown off a second swarm.

No sooner had I shaken the bees on the frames than I noticed them take wing and fly about wildly instead of settling down as the others had done, and notwithstanding that I covered the frames at once by putting on the quilt, they continued to pour out of the hive. Whilst waiting for them to settle I proceeded with the third and fourth, both lots going in all right. I then went over into my neighbour's garden, having noticed that the truants, after leaving the compartment of box, had settled on some kidney beans. I therefore placed the skep on the ground below, and got the bees in all right. About half an hour after, just as I was going to dinner, after hiving the truant lot, I heard another commotion at the "box," and, on looking out, lo! there was lot No. 3 pouring out of their compartment, and straightway they began to troop into the skep in which I had hived the truant lot in the next garden! Well, thought I, "that's a caution!" However, as I was unable to attend to them myself that afternoon, I asked my wife (who is, by the way, another good specimen of the "bee-man's wife"), to watch the bees, and as soon as they were all settled in the skep to place the latter in front of the box, and shake the bees on to the frames after all hives had ceased work for the day.

When I got home at night my wife explained that soon after I had gone she removed the skep from our neighbour's garden, and dealt with the bees as I had instructed her. No sooner, however, had she set the skep down, than the bees began to pour out and fly aimlessly all over the garden. After a while, however, they made "tracks" to the garden of another neighbour two doors away, and while my wife was contemplating what she should do next, they thought better of it, came straight back, and settled in the skep once more, where they remained till just upon dusk, being then hived successfully by my wife. I thought the performance was about finished now, but no, for when I peeped in the next day I saw that two combs had broken down, and, in getting these out, the commotion excited the bees and set them on the wing again, and I had partly resolved to "let the blessed things go," when, to my satisfaction, they came back and settled in their compartment in the "box" where they have remained comfortably at work ever since.

A week prior to this experience, I was hiving another driven lot (a cast), shaking them down in front of the hive. They started running in beautifully, and I saw the queen (a fine lively one) running up with them. I watched her trot right up to the entrance, when, instead of running in with the bees, she turned right round and flew off! I kept perfectly still, hoping that she would come back again, but after waiting some time I had to leave them without seeing the queen return. Soon after, the bees came out and joined the lot next to it. I may not be quite right in my view, but I think that driven lots should be

hived the same day, especially those with young queens. I have never had such an experience before, but perhaps the unusual weather had something to do with it.

My hives have done very well considering the season this year, my best giving me over ninety saleable sections, the majority beautiful clear honey.—D. H. F., *Ross, Herefordshire, September* 17, 1898.

BEES AT THE MOORS.

ROBBERY OF BEE PRODUCE AND APPLIANCES.

[3390.] It is my painful duty to inform you of a dastardly piece of work done to our bee-hives located on the moors at Danby, East Riding of Yorks, between September 1 and 10. As members of the Hartlepools and District Bee-keepers' Association, we have taken our bees to this place each autumn for several years past, and the hives have not been disturbed, nor have we had any cause of complaint till now. Between the above-named dates, however, some despicable thief or thieves got at the hives and carried off honey and appliances belonging to six separate owners. The police have been advised of the outrage, but I am sorry to say no trace of the offenders has been found as yet, though every endeavour is being made to bring the perpetrators to book.

Can you assist us in the matter? Or any advice from brother bee-keepers through the pages of B.B.J. would be greatly appreciated. The general feeling of the members is that it has been done by some expert thief in bee-keeping who had some knowledge of what was on the hives, and was thus able to get away with a large quantity of fine heather honey. We had been congratulating each other on the beautiful weather at the moors at various times, and the fine harvest it promised to yield us, and now to be plundered in this manner is dreadfully irritating. I have never known such an abominable trick in all my twenty-six years' experience of bee-keeping.

Various opinions have been expressed. Some think it the work of travelling gipsies; others, some hucksters; and others, people in the district. One gentleman is so much annoyed that he talks of giving up bee-keeping altogether. Any assistance you can afford will be greatly esteemed by us. I shall be glad to furnish all particulars as they come to hand.

Herewith list of stolen property:—

Two racks containing forty-two filled sections of heather honey; owner, C. H. Robinson, Esq., Foggy House, West Hartlepool. Two ditto; owner, Rev. W. W. Morrison. One ditto each, with twenty-one filled sections of heather honey; owners, J. Law, Esq., Hutton-avenue, Hon. Sec. Hartlepools and District B.K.A.; R. Casebourne, Esq., C.E.; and G. H. Baines, Esq., J.P. Finally, there were five racks, containing in the aggregate ninety-nine sections, belonging to myself. This makes a total of 246 full sections stolen, and, in addition, a young hybrid-ligurian queen was taken from the combs of one of my hives. —G. Robinson, *Greatham, September* 17.

[There is no remedy for such dastardly acts unless the thief is caught, and in securing this a "reward" would assist.—Eds.]

PREPARING STOCKS FOR THE MOORS.

[3391.] The author of "A Modern Bee Farm" says "What is the condition of the colony which goes first into the supers in summer? Have I not already shown that the hive must be full of bees, and every stock comb *literally crammed* with brood, when the honey *must* go into the sections?" He urges, and as I have proved to my own satisfaction, that all centres upon the queen; that a queen which has bred freely all the summer is useless in this special case, hence a young vigorous queen is a necessity. Let me give my own experience. As a result of my Carniolan bees' swarming vagaries, I got three fine young queens at the head of nuclei. Two of these I selected for the moors, one with a small cast and brood was made into a stock in July, and began to work in their super at the close of the honey flow. They went to the moors August 12, a small lot of driven bees, perhaps a pint being added just at the last. The other two colonies, owing to unavoidable circumstances, did not go till August 22. The second nucleus was made up to a full stock August 19 with more brood and driven bees. The stated conditions were therefore fulfilled in both these cases. The third stock I took up was an immensely strong Ligurian colony, but headed by a last year's queen; if anything, I should have considered it had the largest population. Now what are the results? On August 22 No. 1 had done good work in their super; on September 9 Nos. 1 and 2 had each nearly filled eight shallow frames with wide "W. B. C." ends, the cells being about ready for sealing, besides nearly finishing three unfinished sections in hanging frames. No. 3 had a rack of partly finished sections, but I could not discover that they were any further advanced than when they went to the moors; there was no real work going on, yet Ligurians are supposed to work later in the season. No doubt they have brought in a lot of honey, but it has all been stored below; but judging by the weight of the hives the others have stored below as well.

What Plan should be Adopted.—Certainly that recommended, viz., secure or rear as many young queens in July as it is desired to send stocks to the moors, then in August unite them to vigorous stocks, and dethrone the old queen. Or another plan. If it is desired to keep the old queens, unite as before, leaving just a few bees with the old queens, and make up into stocks with driven bees. Suppose an apiary of twelve stocks, six are to go to the

moors, raise six young queens, send them to the moors, and build up the old queens into six new stocks, thus increasing to eighteen. If it is not desired to increase beyond twelve, then send six each year, and by destroying the old queens half the queens could be renewed yearly.

What Type of Hive to Use.—I should decidedly say one which allows of an additional chamber above the brood-chamber, the latter hardly holding a large enough population. I have used the "Gayton" with shallow frame lift. This I secured by screwing a strip on the side of the brood-chamber and four universal fasteners, and to make quite secure one screw through the plinth each side, with perforated zinc on top for ventilation. The bees occupied the super all the way. This does for shallow frames, but for sections I have used Meadows' new "Heather Hive," which is the best for the purpose I have seen. The mode of fastening all parts together is simplicity itself, and the section rack travels in situ safely by stuffing the quilting between it and the side of the lift. With a favourable season and an extra good colony a second lift might be required. Comparisons are odious, but I may compare the above results with others. Near mine are two lots of thirteen and eight stocks respectively. The first went August 12, the second earlier. On August 22 three out of the thirteen were working in their supers, in the others two out of eight were working in sections, and there was practically no change September 9. Had I placed a young, vigorous queen at the head of my third stock, I feel sure they would have finished the sections, but I had an object in view. Bee-keepers seem agreed that stocks that have been to the moors are ready earlier in spring. This may be because queens begin to breed again. I shall see if this is the case with my Ligurian stock. To sum up, I should say the only way to ensure success at the moors is by correct previous preparation such as I have adopted.—ALPHA, *Hull.*

THE B.B.K.A. APIARY AT SWANLEY.

FLOWERS FOR BEE-PASTURAGE.

[3392.] It is proposed to devote a small strip round the apiary to the growth of various examples of the best flowers and flowering shrubs which may be specially suitable for bee-pasturage; not so much those that are commonly known as those less rarely found in ordinary cultivation. *Reseda alba*, the new white mignonette (having a foliage quite distinct from the ordinary mignonette) is just now a great resort for the bees. Bee-keepers should sow it. Railway porters on the L.C. and D., where valerian abounds and makes crimson the deep chalk in railway cuttings, assure me that bees do resort to the flower, although I cannot say this from my own observation in the garden.

I regret to state there has been a very great destruction of bee-life at Swanley through the attraction of boiling syrup at a "peel" manufactory; bushels of bees every week have been slaughtered, and the B.B.K.A. apiary has suffered considerably.—E. D. TILL, *Eynsford, Kent, September* 17.

P.S. Messrs. H. Cannell & Sons, of Swanley (both senior and his son are bee-keepers), told me of the special attraction which the new mignonette has for bees. Mr. E. Cannell also tells me that *Helenium Autumnale Superbum* is much sought after by the bees, and apparently a fine bee perennial. This is a comparatively new sort of Helenium from the "Rockies." Is *Rosemarinus Officinalis* a good bee shrub. Information will oblige.

A NOVICE'S GRIEVANCES.

[3393.] I write to make a suggestion with reference to your deposit system. I purchased some bees through your advertisement columns on the above-named system. The bees arrived damaged, and I called in the assistance of an expert, who gave it as his opinion that sender was to blame for damage, as the bees were not properly packed. I sent a copy of report to sender, and refused to pay. The consequence is I have received a summons to appear in the County Court or pay. As I have not the time nor means at my disposal to dispute this step of sender, I am compelled to pay, although I am clearly in the right and have taken advice on the subject. Now as to my suggestion: Cannot it be made a rule that when seller and buyer disagree the matter should be submitted to arbitration? I am sure you, or any recognised authority on bee-keeping, would only be too ready to decide fairly in the matter, or each disputant could appoint their own arbitrator. As a rule, the amounts in dispute would only be of a trivial nature. But it does seem hard on a beginner, when he is backed up by a recognised expert's report, to have to pay for the fault of another. Is there no society, as in poultry keeping, where members have the benefit of legal assistance in matters of this sort? If so, I would gladly become a member of such a society.—NOVICE, *London, September* 14.

(*Correspondence continued on page* 376.)

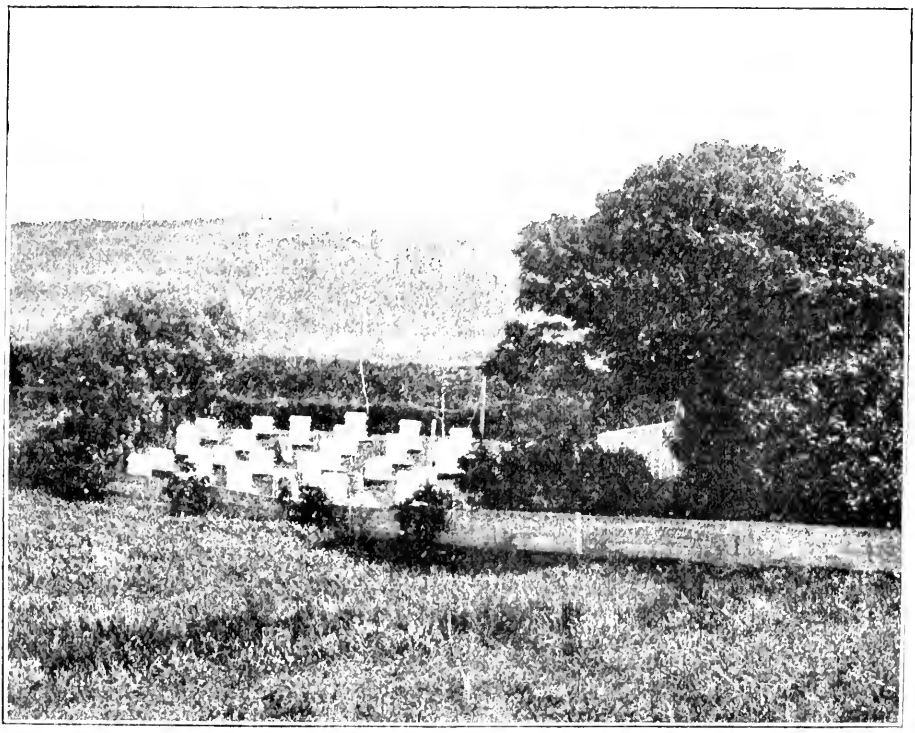
HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

The lady whose apiary is shown on next page will be known to readers (in print) through her bright and cheery contributions under the *nom-de-plume* of "A Scottish Cousin." For some time past we have not been favoured with any report of the bee-season so far north in Scotland as Banffshire. Nor do we presume to inquire why the always welcome letters of "A Scottish Cousin" have been missing from our pages, but we do hope that a sight of her pretty bee-

garden and the bright-looking hives will again arouse the desire to let us know what the bees have been doing in the orderly arranged apiary shown. The following extract from note—which accompanied the photo—shows that our "Scottish Cousin" has lost none of her interest in the bees:—

DEAR SIRS,—Some time, perhaps, you will find room for enclosed photo in the "Homes of the Honey Bee." I expect it will be a long time before it appears, as I know you have a stock of pictures on hand, but it may take its turn with the rest. There was no idea when photo was taken of its being used in print, or



MRS. B ANDERSON'S APIARY, CUSHNIE, GAMRIE, BANFFSHIRE, N.B.

of the bee-garden pictures in your journal, but they are most interesting, one and all.

By way of "text" to go with picture, I may say, under my old *nom-de-plume*: Three honey harvests have come and gone since last I sent any account of our doings. We had a wonderfully good harvest in 1896 (820 lbs.), all gathered between July 10 and 21. After that it was rain, rain, rain, scarcely a dry day until the bees were packed up for winter; a sorry lot, breeding having stopped very early. Then the long cold spring of 1897 came down "like a wolf on the fold," leaving me nothing but weaklings, and many an empty hive. However, we bought a good many swarms, and on July 9 the honey flow began, continuing for three weeks without intermission, and when the extracting was finished, we had fully 1,000 lbs. If we had had a dozen good stocks we would have doubled that, but I think there will always be a good many "ifs" in my bee-keeping vocabulary, for I have been always more or less unfortunate in wintering, never once pulling all through. I have been very interested in the "Homes of the Honey Bee," and enclose a photo of our apiary, taken in the early summer of 1896 by the desire of one of our lads (long delicate, and my right hand among the bees for five years), who in January reached a "fairer country, far away, far away," and whose memory will ever be (to me at least) inseparably connected with the bees. I was very pleased to see Mr. Ness's apiary, for we had some swarms from him, and some from Mr. Walton, which did splendidly. I have also seen the "Honey Cott" apiary, Mr. Walton kindly sending a photo. In closing, let me say how much I enjoy "Lordswood's" letters, specially when he takes a walk among the ferns, and primroses, and violets of spring. There's a "Lo, the winter is over and gone, and the time of the singing of the birds is come" about them which make them delightful read-

ing; so different to the gruesome stories of foul brood, the Bluebeard of bee-keepers. However, so far as I know, that gentleman does not visit in the north of Bonnie Scotland, and I am sure all bee-keepers will join me in wishing he never may become a Banffshire Bluebeard. That is rather selfish, so I will just wish he never may become a Hielanman.—A SCOTTISH COUSIN.

CORRESPONDENCE.

(*Continued from page* 374.)

DEALING WITH FOUL BROOD.

[3394] I note your correspondent "C.M.S." on page 368 of B.J. last week, asks for my views as to permitting the sound brood of an infected stock to hatch out before destruction of the combs and treatment of the bees? In reply, let me say that in a matter like this circumstances modify if they do not alter our methods of mastering the disease, but the end is the same. Mr. John Berry is, I believe, a very good bee-man and well knows what he is talking about, and a hive in his hands but slightly affected, strong, and with honey coming in, would not be a source of danger for twenty-one days after removal of the queen. The danger is with diseased stocks in times of scarcity when weak hives are robbed by stronger ones; in which case, either being diseased would spread the mischief. I should advocate in any event immediate treatment by disinfectants to limit the spread of the disease (and this J. B., from his letter, takes care to do), although in less capable hands, no doubt entire destruction of the combs would be best save where, as already said, the disease was in the earliest stage and the season in full swing. I have known many cases where bees under these conditions have effectually cured themselves. It seems to me that on the whole the method followed by John Berry is a sound one for a careful bee-man; but in following it myself I should give the new queen when reducing the bees to the condition of a swarm, and should not hesitate to destroy all combs in the hive.

It is exceedingly probable that if, after treatment, the disease appeared again in the same hive in my apiary, the hive and contents, "lock, stock, and barrel," would be destroyed. I consider that starving the bees is most essential, and when relieved I should give them some comb-building to do, and feed with medicated food. This and requeening are most important.

I do not now practice wide spacing of frames in winter. Why? Because I have a notion that when the food is exhausted in the frames on which the bees are located they have a long way to go (comparatively) to get to the further supply, and I found the cluster often split in two. I may be wrong, but I put it down to wide spacing.

The method advocated by Mr. Berry is adopted by both experts employed by our Kent and Sussex Association, and the reports received now daily by me of the autumn tour show clearly that where the plan was carried out in the spring the stocks in question are mainly returned as *healthy*.—HENRY W. BRICE, *Dale Park-road, Upper Norwood.*

[3395.] We have foul brood ravaging this neighbourhood, and it seems to be spreading. Several hives which appeared perfectly healthy when supers were put on in the summer are now badly affected. It is so difficult to do anything to get rid of it in consequence of there being several careless bee-keepers near hand. For instance, one had foul brood in a skep, the bees died, and he left it standing for other bees to rob of its contents. When shown where the danger was, and where the cells were containing stuff like birdlime, he said he didn't believe it was foul brood. But thinking over what had been said, he consented to burn the lot as it stood. He also afterwards burnt the combs, &c., of his four other suspicious-looking hives. He didn't forget, however, to leave a few bits of comb containing honey lying about his garden for his own and other bees to clean out and thus contract the disease. When he was told about it he said his bees were healthy. Isn't this an awful waste of bee-life? Another one who examined the combs in the hive from which the sample I send was taken declared that the putrid coffee-coloured matter was nothing but cells of pollen and a few bits of chilled brood! Please let him know through your paper (which I will take care he sees) whether he is right or wrong about pollen-cells and chilled brood. Hoping to see an early reply in your valuable journal.—BEVERLAC, *Yorks, September* 14.

FORMING BEE-CLUBS.

[3396.] I have been approached by some brother bee-keepers in this neighbourhood on the subject of forming a club, or of holding informal meetings for the exchange of views on matters relating to bee-keeping. This district, viz., Wood Green and Hornsey, the edges of Bowes Park, Palmer's Green, &c., all within easy walking distance of one another, are getting fairly well populated, and among the people settling here I feel sure there must be a number of bee-keepers, and, again, others who would like to become such. I myself know some half-a-dozen or more. I believe that the nearest County Bee-Keepers' Association is Middlesex, and held at Ealing. If this is the case, there is every reason why we should form a subsidiary club at this end of the county. If you will help us to do so, you will confer an obligation. Will you kindly ask those of your readers who may be residing in the above neighbourhoods, and would care to

form themselves into a club for mutual advantage and protection, to address me as below?

Perhaps you would be interested to hear the amount of my success in this district. You may remember, through the questions I have so often bothered you with, that I am quite a beginner in bee-keeping, having started last back-end with a swarm in a straw skep, which was supplemented a few weeks later with a lot of driven bees, which formed a good stock this spring. In spring I transferred the skep to the tops of frames in a frame-hive and allowed the bees to work down; afterwards extracting the honey from the skep. I also had a few shallow frames from this hive. The lot of driven bees I worked for sections, of which I ultimately got thirty-five full and several partly full. The latter I extracted. These thirty-five sections were splendidly filled, and capped as white as snow, the honey being a beautiful, clear amber in colour, and not a trace of dark honey. On the other hand, the extracted honey from the shallow frames contained large patches of honey-dew. The total weight of honey from the two hives amounted to 70 lb.; an average of 35 lb., which, I should think, was fairly good for a London district in a bad season.—G. Krichelldorff, 56, *Alexandra-road, Hornsey, N.*

NAPHTHOL BETA SOLUTION

PREPARED FOR USE.

[3397.] It would, I am sure, greatly assist bee-keepers if you could undertake to have naphthol-beta solution sent out prepared for use from your office. It is difficult to get the solution properly prepared at our chemists. Some that I had mixed for me smells so strong of methylated spirit that when syrup is medicated with the proper quantity of solution the bees do not take the food at all readily.—Wm. Loveday, *Hatfield Heath, Essex.*

[We have had the matter referred to in mind for some time past, and tried several kinds of cardboard boxes suitable for posting bottles in. We hope, however, to make some definite announcement on the subject in a week or so.—Eds.]

DESTROYING WASPS' NESTS.

[3398.] Your correspondent, Mr. Bellairs (3375, page 347), advises a remedy for destroying wasps' nests with cyanide of potassium, a deadly poison. May I give a very simple plan of effecting the desired object, which is not at all a dangerous one: Get a piece of gas-pipe 15 in. long (size ⅜ or ½ in.), plug one end tight with a stick left long enough for a handle. Fill up pipe with powdered sulphur and gunpowder mixed well together, and in the evening, when there are no wasps on the wing, light contents with a wax vesta. The powder will ignite and the sulphur will last for nearly a minute, blowing very much like squibs boys use on Guy Fawkes' day, but not in the least dangerous. By this means I have put an end to scores of nests. The combs should be dug out and destroyed.—W. J. Norman, *Bridport.*

METEOROLOGICAL

Observations taken at Duddington, Stamford, Northants, for the Week ending Sept. 17, 1898.

1898.	Bar. in.	Tem. 9 a.m. deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in.
Sept. 11....	29·99	63·9	74	52	22	62·5	—
,, 12....	29·99	61·0	62	52	10	56·8	—
,, 13....	30·10	58·5	68	45	23	55·9	—
,, 14....	30·15	64·0	76	54	22	64·5	—
,, 15....	30·34	61·2	80	50	30	64·3	—
,, 16....	30·28	60·2	83	49	34	65·2	—
,, 17....	29·98	70·1	88	50	38	68·1	—
Means	30·12	62·7	75·9	50·3	25·6	62·5	*—

* Total, nil.

Mean vapour tension, 0·483 in.; mean relative humidity, 85 per cent.; mean temperature of the dew point, 57·9. For the week ending September 10, the mean temperature, viz., 67·6 (not 67·5, as sent in error), was +0·8; and the rainfall, viz., nil, −·56 in. The rainfall, August 28 to September 10, viz., ·14 in., is −·92 in.; and that, January 2 to September 10, viz., 12·21 in., −4·49 in.

Fred. Coventry.

P.S.—September 14 to 17, mean temperature of 9 a.m. readings, 63°·9; mean maximum, 81°·8; mean minimum, 50°·8; mean temperature, 65°·6. F. C.

THE GEDLING COMPENSATION FUND.

	£	s.	d.
Sums collected by Mr. J. McKinnon from Notts bee-keepers and friends	10	16	3
Amounts acknowledged in B.B.J....	10	17	0
Sums since received—			
G. Domleo (Long Eaton)	0	5	0
Thos. Simpson (Derbyshire) ...	0	2	6
W. Goodall	0	2	6
G. C. W. R. (Essex)	0	1	0
W. Jeffrey (Atherstone)	0	1	0
H. G. Pugh (Beeston)	0	1	0
	£22	7	3

[In accordance with the statement on page 366 last week, we have forwarded cheque for the sum named to Mr. Geo. Hayes, Hon. Sec. Notts B.K.A., and it now only remains for us to thank all who have contributed to the fund for their share in compensating the owner of the horses for his loss.—Eds.]

Echoes from the Hives.

Hatfield Heath, Harlow, Essex, September 16, 1898.—The warm weather encourages late breeding, and we have still a few trusses of flowers on late sainfoin and lucerne. I find

that the colour and general quality of lucerne honey is very good. It will probably interest you to know that I have secured orders for a couple of dozen jars of honey for two entries for the Grocers' Exhibition, October 1 to 8. Through the great heat I had to super some of my best stocks on August 14, and after that date secured some well-filled supers of first-class honey from a late crop of sainfoin. These were removed on September 18, but I had then to put in empty supers, with what result I will let you know when I am able to remove them.—Wm. Loveday.

OUR WILD BEES.

(*Continued from page* 234.)

CHELOSTOMA, BOMBUS AND PSITHYRUS.

June is, on the whole, rather a slow month for the collector of wild bees. Only a few worn and tattered stragglers remain from the first great rush of spring bees, and the advanced summer species—among which may be reckoned some of our greatest rarities—have not yet come on to fill their place. Bee-keepers, who have been enjoying these rambles in their leisure time, will be glad now to let them give place for a short while to necessary additional work amongst the hives. Still, there are several good *Andrenas* that may be taken in first-class condition during the month. *A. labialis* would be one of these, and it is easy to recognise. It is rather a large species, and belongs to a group of this extensive genus in which the male has the clypeus and sides of the face yellowish-white, with two small black spots on the former; the hairs are short and brown, dense on the thorax, and forming fairly distinct bands at the apices of the segments of the abdomen. The wings have a yellowish tinge; they are clouded at the apex, and have the nervures pale testaceous. In the ♀ the apical fringe is golden, and the scopæ are pale golden. Length, 11 to 14 mm. Beginning of June.

The females of all the common *Halicti* are to be found during this month, but not always in very good condition.

Nomadæ taken during the latter part of this month may be rare species. The males of one or two *Megachile* (leaf-cutter bees) may be abroad before the month is out, but we will go fully into this interesting genus later on. In some localities its appearance is heralded by its near and diminutive relative, *Chelostoma florisomne*. Like *Osmia* (page 96), *Chelostoma* has only two sub-marginal cells in its wing, and the female collects pollen on the venter, but with its elongate and shining body it presents a marked contrast to the robust, well-clad *Osmiæ*.

Chelostoma florisomne is black and deeply punctured, the head is full and the mandibles in the ♀ large; the body is sparingly clothed with brown-grey hairs, each segment of the abdomen with a narrow apical band of short white hairs; pollen brush very dense and yellowish-white. Length 9 to 10 mm. I have taken this bee on *Ranunculus*, "buttercup," but it is not a common species with us. "The male usually spends its nights curled up in flowers" (Saunders), hence the name; and "the females burrow in old posts or rails" (id).

C. campanularum, the only other British species, is much smaller; it frequents the flowers of the common harebell.

The females of almost all the *Osmiæ* are busy making and provisioning their nests through June; the female *Eucera* is similarly engaged.

We now return to the humble-bees—those big hairy insects, which no one who lives in the country can possibly fail to notice. They ought to be of special interest to the bee-keeper, because they are the nearest related of all our wild bees to the honey-bee, and, like the latter, live in colonies and develop workers, but these exist only during the summer. The life-history of the humble-bee has already been briefly outlined on page 128, where *B. terrestris*, *pratorum*, and *hortorum* were described. The females of several other species have, however, come out since March, and foremost among these in the south and east of England will be *B. lapidarius*.

Bombus lapidarius is one of the large species; it is clothed with rich velvety-black hair, which changes to a bright orange-red at the tail, the colour extending over the 3 apical segments of the abdomen; hairs of the legs black; length, 20 mm. The ♂, which does not appear until August, is similarly coloured, but the red at the tail is slightly less deep, and the following parts have the hairs pale greenish-yellow:—the face and vertex of the head, a band across the front of the thorax above, an ill-defined one behind, often a few hairs at the extreme base of the abdomen, and the underside. Length, 21 mm. The ☿ (worker) resembles the ♀, but it is only 12 to 16 mm. in length. *B. lapidarius* makes its nest under ground. The number of workers attached to one nest is from 80 to 150. It is specially fond of *Lotus*, sainfoin, also the red and Dutch clover, and the males are partial to the knap-weed (*Centaurea*).

B. Derhamellus is rather like *lapidarius*, but is, in reality, very distinct. It is smaller (length ♀ 16 mm.; ☿ 9 to 13 mm.), the red tail is not nearly so bright, and the posterior tibiæ are clothed with red, not black, hairs. In the ♂ the yellow bands are faint. This is rather an early-appearing species, and is more common in the north. It makes its nest, like the following species, on the surface of the ground, and when the colony is at its strongest there are only about 50 workers.

B. agrorum. — This is the well-known "carder-bee," the moss-covered nest of which is often found in hay-fields. It is not very easy to describe this humble-bee, as it varies considerably in colouring. Unlike any, how-

ever, yet mentioned the prevailing colour of the hairs is not black but fulvous-yellow, which is brighter on the thorax ; on the basal half of the abdomen this colour is intermixed more or less with black, on the apical half of the abdomen it generally has a slight fulvous tinge. The hairs on the posterior tibiæ are black. Length of ♀ 15 mm. Common all over our islands. The maximum number of workers in the nest is 60 to 100. This species has long been known under the name of *B. muscorum* from which, however, it is quite distinct. The true *muscorum* does not occur in this country.

B. venustus is allied to *agrorum* and resembles it in general colour, but it is brighter and the abdomen is clothed entirely with dull pale-yellow hairs, except a peculiar darker band on the second segment which is very characteristic. The hairs on the posterior tibiæ are pale. The habits of nesting are similar to those of *B. agrorum*. Common in many places in the south.

B. sylvarum completes the list of our common *Bombi*. The prevailing colour is greenish-white, which is mixed with black on a large patch in the centre of the thorax, and the second (not always) and third segments of the abdomen have black hairs at their base, the three apical segments are clothed with pale orange hairs. Length of the ♀, 15 mm. The male is similarly coloured. The workers number 60 to 120. This species makes a nest on the surface like *B. agrorum*, which reaches its full size rather later in the season than that of most other species. *B. sylvarum* is common in the south, and is supposed to have a predilection for woody districts. It is particularly fond of the woolly-hedge-nettle (*Stachys sylvatica*), red bartsia, sainfoin, and labiates in general. The ♀ and ♀ fly rapidly with a shrill and high note.

The workers of the different species of humble-bees, like the races of our honey-bees, vary a good deal in their mode of defence when their nests are disturbed. *B. terrestris*, which lives underground in large colonies, attaining the number of 100 to 300 workers, is very irascible, and flies to attack the intruder with great boldness and ferocity.

(To be continued.)

Bee Shows to Come.

October 1 to 8, at the Agricultural Hall, London.—Honey Exhibition in connection with the Third International Exhibition of the Grocery and Kindred Trades. Classes (for Master Grocers only) for Sections and for Extracted Honey. (See advt. on p. iii.)

October 5 and 6, at the Public Hall, Caterham Valley, in connection with the Caterham Fanciers' Show. Honey classes open to Surrey, with liberal prizes for Twelve 1-lb. Sections and for Twelve 1-lb. Jars Extracted Honey, also for Wax. Schedules from J. Kilby, Caterham Valley. *Entries close September 21.*

October 8, in the Town Hall, Hamilton, N.B.—County of Lanark B.K.A. Annual Show. Valuable prizes for Honey, &c., in Open Classes. Schedules from John Cassells, Cadzow-buildings, Hamilton, N.B.

October 18 to 21, at the Agricultural Hall London.—Show of Honey and Bee Products, in connection with the British Dairy Farmers' Association Liberal prizes for honey, &c. Schedules from Wm. C Young, Sec., 12, Hanover-square, London, W. **Entries close September 19.**

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

DOUBLE BEE (Wisbech).—*Suspected Comb.*—The first sample did not reach this office. Regarding the specimen examined on 15th inst., the cells are perfectly empty, no signs of brood in them. We found a wax-moth larva in comb, but nothing worse.

B. W. (Kirby Stephen).—*Age of Queens.*—Both queens sent are evidently old ones. No. 2 has received some external injury on thorax, and has the appearance of having been "balled."

J. E. G. (South Ealing).—*Transferring Bees.*—The floor-board being nailed the best method will be to drive the bees out of what is no more or less than a box in the same manner as you would a skep. Do this in spring, taking care that the queen is uninjured.

E. L. (Ringwood).—*Flavour of Honey.*—The prevailing flavour of sample sent is heather. Some object to its peculiarly delicious flavour, but the majority esteem it highly.

E. B. F. (Birkdale).—*Chilled Brood.*—Nothing worse in comb than pollen and chilled brood one or two days old, in all probability alive when removed from hive.

"AMATEUR" (Oswestry).—*Removing Honey from Brood Chamber.*—Looking to the little experience you have had you will be wise in leaving the brood chamber alone. Nothing you can feed with equals the natural food. We are sorry you have had so little surplus, but so far as depriving the bees of their stores we can only say "don't."

A. H. H. (Alresford). — *Super-clearer.*—A properly made board, fitted with a single "Porter" bee escape, answers well in our hands, and we fail to see why it should not in yours. We do not find that bees "wax" the springs with us. If left on too long they will propolise them, no doubt.

Special Prepaid Advertisements.

Twelve words, Sixpence; for every additional Three words or under, One Penny.

FOR SALE, 1 cwt. splendid CLOVER HONEY, £3. Sample 3d. S. BAILEY, Itchingfield, near Horsham. X 51

NOTICE. I cannot book any more orders for Driven Bees this season. A. J. CARTER, Billingshurst.

PROLIFIC QUEENS, 2s. 6d. each. Three-framed Nuclei, 10s. 6d., packages free. E. WOODHAM, Clavering, Newport, Essex. X 34

TO CLEAR, NINE DOZ. 1-lb. SECTIONS, 7s. per doz. Cash or deposit. NIGHTINGALE, Doddington, Cambs. X 40

FINE SELECTED ENGLISH QUEENS, tested, 5s. each, sent in introducing cage. W. WOODLEY, Beedon, near Newbury.

THOS. J. HORSLEY, has comfortable APARTMENTS for brother bee-keepers visiting the Isle of Man.—Merridale House, Empire-terrace, Douglas, Isle of Man. W 27

LIGURIAN BEES, nine Frame Stock. Good condition. Imported Queen, 25s., packed. HIGLEY, Expert, Timberhonger, Bromsgrove. X 46

WHAT OFFERS in driven Bees for Neighbour 25s. EXTRACTOR? New last season. NEWMAN, 57, Coldharbour-lane, London, S.E. X 45

ENGLISH made HONEY JARS, 1 lb. screw cap reduced to 11s. gross. Sample six stamps. JAS. DYSON, Stainforth, Doncaster. X 5

FOR IMMEDIATE SALE, several strong Stocks in Frame-Hives and Skeps. First-class condition. Apply, OWEN, Greenfields, Shifnal. X 49

HEALTHY DRIVEN BEES, with young Queen, 1s. 1b. Packing 1s. 6d. J. STEPHENSON, 36, Temple-street, Manningham, Bradford, Yorks. X 50

GUARANTEED healthy Driven Bees with Queen, 1s. 3d. lb., case 1s. Stocks in skeps, 12s. 6d. Plenty stores. WOODS, Normandy, Guildford. X 47

OFFERS WANTED for some good SECTIONS and EXTRACTED HONEY. Sample 3d. Approval. SPEARMAN, Colesbourne, Andoversford.

FOR SALE, BEE LIBRARY. Unique collection, including old and rare volumes. Catalogue on application. COLE, 119, Cannon-street. X 56

WANTED, "BRICE" SWARM-CATCHER, Windsor Extractor, Hives. Cheap. M.D., Ladies' Club, Worcester. X 53

SIX RAPID FEEDERS (Simmins' principle) for Frame Hives. Never used. Listed 3s. each. Accept 9s. ARTHUR COOPER, Rolleston, Burton-on-Trent. X 48

PRIME WILTSHIRE HONEY FOR SALE. Several cwt. at 6d. per lb. E. W. FLOWER, Apiary, Amesbury, Wilts. X 43

THREE DOZ. SECTIONS, 60 lb. Extracted Honey, 4 Stocks in bar framed hives. What offers? HOWELL, New House, Earl's Colne, Essex. X 58

QUEENS RAISED under most favourable conditions 5s. each, with introducing cage. Post free. Safe arrival guaranteed. Importer of foreign queens. Address, Rev. C. BEERETON, Pulborough, Sussex.

"HONEY AND ITS USES." New edition, 1½d., 3s. 6d. per 100. "Mead, and How to Make It," 2½d. "Vinegar from Honey," 2½d. Sample bottle, 7½d. Rev. GERARD BANCKS, The Green, Dartford. W 97

SMALL SWARMS with young fertile queens for building up or uniting to queenless stocks, 5s. 6d. case included, on rail. Fertile queens 3s. 9d. each, delivered. ALSFORD, Expert, Blandford.

STRAWSON'S KNAPSACK SPRAYER, cost 35s. new. In excellent condition. What offers? Cash or exchange. Observatory hive or useful bee appliances. EDWARD ROBB, The Apiary, Ontwell, Wisbech. X 52

OFFERS WANTED. 12 doz. clean well-filled Sections and 2 cwt. Extracted 1st prize Cornish Honey. A few young Queens, 3s. each, guaranteed healthy. WILLIAMS, Rehubbus Apiary, Marazion. X 55

Prepaid Advertisements (*Continued*).

QUEENS, natural raised, about 50 FOR SALE. All young, fertile, and healthy. 2s. each, post free. Safe arrival guaranteed (less by the doz.). A. J. CARTER, Billingshurst, Sussex.

PLANT NOW: Narcissus Stella, per 100, 2s. 6d.; Leedsi, 2s.; Duchesse de Brabant, 3s. 6d.; Poeticus ornatus, 2s. 6d.; Majalis, 1s. 6d.: double Gardenia-Flowered, 2s.; Billorus, 2s. Also Limnanthes Douglasii, 6d. per 100. SANDS, Redhal, Worcestershire. X 44

LACE PAPER for GLAZING SECTIONS, in several neat patterns and colours (white, pink, and French grey). 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. W. WOODLEY, Beedon, Newbury.

THE extraordinary fine weather so late this year enables me to offer 100 TESTED 1898 QUEENS, specially raised (now laying well), at 5s. 6d. each. Post free in my perfected travelling and introducing cage. Quality and safe arrival guaranteed. HENRY W. BRICE, Dale Park-road, Upper Norwood.

HEALTHY DRIVEN BEES, with young Queen, at 1s. 3d. per lb., not less than 4-lb. lots. Boxes to be returned, carriage paid. Also young Fertile Queens, at 2s. each. Free by post. R. BROWN, Flora Apiary Somersham, Hunts. W 76

HEALTHY driven Bees direct from the Moors, 3s. 6d. Stock of pure Ligurians in home-made hive. Standard frames, £1, Heather Honey in 1 lb. sections, 1s. each, and a few 16 oz. glass jars of "dripped" Heather of beautiful colour, 1s. each. ROBT. BOYES, Rygate, Helmsley, Yorks. X 54

ADD to the interest of, and profits from the Apiary-garden by growing good vegetables. I can spare a few pecks each of the following really good potatoes at 1s. per peck; White Hebron, International and early rose kidneys, and The Schoolmaster, and Sharpe's Paragon round. Also a few quarts of the Champion Scarlet Runner Beans, 1s. per quart. I have been awarded numerous prizes for above. W. LOVEDAY, Hatfield Heath, Harlow, Essex. X 57

THE SCOTTISH BEEKEEPER.

PUBLISHED FORTNIGHTLY. **3s. 3d.** per annum, Post free.

Send stamp for specimen copy of current number. It will please you.

WILLIAM ORMISTON,
BIGGAR, N.B.

MR. H. NEWSOME BAXTER,

Sedbergh,

Bees, Honey, and Appliances.

Fine Photograph of a portion of a Comb affected with

FOUL BROOD,

TAKEN DIRECT FROM THE COMB BY

T. W. COWAN, F.L.S., &c.

Price One Shilling, Post Free.

Bee Journal Office, 17, King William-st., Strand, London.

SCREW-CAP HONEY BOTTLES.

ENGLISH MAKE.

16 oz. in bags of 10 doz., **12/9**; 7 oz. in bags of 6 doz., **7/-**. Packing free.

Sections, Weed Foundations, Hives, &c.

CARNETT BROS., 29, High St., ROTHERHAM.

Editorial, Notices, &c.

DEALING WITH FOUL BROOD.

Treatment by the Use of Naphthol β.

The length of time that has elapsed since we first published the results of Dr. Lortet's exhaustive paper on the foul brood bacteria, together with the seeming uncertainty on the subject, induces us to set the matter at rest so far as we are concerned by reprinting in full the original paper, the number in which it first appeared having been out of print for some time. We do this because of the frequent recurrence of questions—put by correspondents who have not troubled to inquire in the matter—regarding the comparative efficacy for use in bee food of disinfectants ranging from "Izal" to "Jeyes' Fluid." It is so easy for uninformed persons to attach equal value to the opinion of someone who jumps to a conclusion, without being able to give the slighest scientific reason for it, that it will not be our fault if readers do not have the opportunity now of seeing or reading for themselves the reasons which induced us to bring before bee-keepers the views of a distinguished scientist who has devoted time and deep thought to the subject. The following is an exact reprint of the original paper together with the introductory editorial remarks which preceeded it.

"We have much pleasure in giving our readers a translation from the *Revue Internationale* of a paper by Dr. Lortet, who has for some time been making experiments and observations upon this disease. There are many points quite new, and which throw considerable light upon the subject, and the remedy proposed is simple, and, from reports, encouragingly effectual. We wish our readers to particularly note that the naphthol is that known as naphthol β (naphthol beta), and not the ordinary naphthaline. As it is perfectly harmless, there is no danger in its application.

"Thanks to the publicity you were good enough to accord me in the columns of *La Revue*, I have received from a number of your readers pieces of foul-brood comb or bees exhibiting more or less advanced stages of the disease. I have, therefore, during the last year been abundantly supplied with material for my researches, and have been enabled to clear up a good many obscure points in connection with this virulent affection, and to formulate a course of treatment based on careful laboratory experiments.

"As was demonstrated in the contributions by Mr. Cheshire (*Revue*, August, 1884) and Dr. Klamann (*Revue*, January, 1889), foul brood is in reality produced by rod-shaped bacteria which develop rapidly in the brood cells and soon die, and produce in putrefying an odour which is altogether unmistakable.

"Before beginning my observation of foul-brood larvæ, either during the disease or after death, and of adult insects already infected, I turned my attention to perfectly healthy bees as well as various other species of hymenopteræ, such as wasps, humble-bees, carpenter bees, &c. After a patient and minute course of dissection I have arrived at the following results, which are based on an intimate acquaintance with the ætiology of the disease.

"I.—I find that various hymenopteræ, besides adult bees, whether healthy or diseased, *invariably present*, through the whole of the lower part of the digestive tube, a very large number of bacilliform bacteria, which are probably called upon to perform important, though at present unknown, functions in connection with the chemical changes which take place in the food introduced into the digestive canal.

"In the bee, to mention only the species which immediately interests us, whether healthy or diseased, as well as in the digestive canal of the brood, whether in health, in disease, or after death, I have invariably discovered two normal bacilli, the presence of which has, without doubt, led some people astray.

"The more numerous of these bacteria are of a large rod-like shape, broad, thick, short, and bear a striking resemblance to certain bacteria which are frequently met with in soft water. They are never arranged in chains, but propagate themselves by means of binary fission; in the early stages they are often united in couples. When fully developed they become slightly rounded at the extremities, which swell perceptibly. These bacteria retain very well the stain communicated by Fuchsin, and after staining the club-shaped ends show a much darker tint than the central space of the body. In this state the bacteria present the same appearance as may be observed in the bacteria of malignant œdema.

"This species is most easily cultivated, especially in liquid media, less easily in nutrient Agar-Agar glycerine-gelatine. When injected into the cellular tissue of guinea-pigs it fails to produce any harmful effect.

"II.—Another normal bacterium is also inably found in the digestive canal of the bee. It is smaller, thinner, and short, its length being only equal to twice its breadth; it is not rounded at the extremities, which are shaped almost at right angles. These bacilli do not form chains, but frequently remain united in pairs for a long time. In this state they nearly resemble diplococci, though perceptibly more elongated than these latter. In cultivation they often group themselves into *zoogloea*, and in this case arrange themselves very regularly. These microbes multiply without difficulty in both solid and liquid media, and take a strong stain from Fuchsin, or Methyl, or Gentian violets.

"III.—Lastly, in the digestive canal of dead or diseased brood, as well as of adult bees already

infected with the disease, but in the digestive canal alone, a third kind of bacterium is found, which is without doubt one of the forms that have been examined by Mr. Cheshire. It is thin, and frequently extends in filaments. It thrives well in sterilised veal-broth, and it is therefore comparatively easy to obtain a supply of perfectly pure specimens for purposes of inoculation. In this nutritive element filaments appear in a few days, and after staining the fine granular elements of the formation become apparent owing to the differences in colouration.

"In the digestive canal of the adult the bacteria appear to maintain their rod-like shape for a considerable period—perhaps, indeed, always; whereas in the digestive canal of the larvæ, probably owing to the influence of albumenoids, which pass by osmosis through the walls of this tube, the bacteria, as in the case of cultivations effected in unsalted veal-broth, are rapidly transformed into very fine, virulent granulations, which invade all the tissues, and soon bring about the disorganisation and rapid putrefaction of the larvæ.

"The adult bee, on the other hand, even when the foul-brood bacteria have taken possession of its digestive canal, seems to be able to live for a certain time. It is, however, none the less apparent, once the infection has taken firm hold, that the animal is diseased. The digestive canal, and especially the surrounding glands, end by being invaded by an enormous number of the rod-shaped organisms; the insect loses its vivacity, grows languid, and finally perishes after a more or less protracted interval.

"Virulent granulations cultivated in salt veal-broth or on plates of glycerated Agar-Agar produce bacillary bacteria, which, when given in food to the larvæ, undergo in their turn segmentation into virulent granulations, whereas in the case of the adult bees they still probably retain the bacillar form for a long time, though they do not fail in the end to cause its death.

"The culture and transformations of the foul-brood bacterium cannot take place in the honey; so much is certain. Still, I may mention that in diseased hives the honey and wax are always more or less infected on the surface by bacilli, virulent granulations, excrements, &c.

"I have on several occasions succeeded in reproducing the whole series of phenomena mentioned above experimentally, and have, without difficulty, infected insects which had been perfectly healthy and vigorous up to the moment of the experiment. My mind is, therefore, quite free from doubt in the matter. It is the adult bee which is first infected in its digestive canal by a foul-brood bacterium obtained from some unknown source. In feeding the larva it infects in its turn the digestive tube of this latter, and here, owing to the action of the albumenoids, the bacillar bacteria are transformed into virulent granulations, which invade the tissues and finally bring about the death of the insect.

"Contaminated honey may be a cause of the propagation of foul brood in the sense that, being polluted by foul-brood bacteria or by virulent granulations, the healthy adult bee which allows this substance to enter its digestive canal is rapidly attacked by the disease, and will even itself soon communicate the infection to the brood. Experiment in such cases gives the most convincing results. Still, in the case of foul brood, as in the case of virulent affections which attack vertebrate animals, certain individuals seem to enjoy exceptional immunity, and resist the infection. Is this due to previous inoculations, or to some individual predisposition? This is a point which I am not at present prepared to decide."

(Conclusion in next issue.)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[3399.] The month of September is fast drawing to a close, but up to time of writing (26th) we have had no September gales with accompanying storms of rain such as we generally get "on or about" (as the almanacks say) "the autumnal equinox." I doubt, however, if at any time within the memory of living man the rain could ever have been more desired and required than at present. Indeed, so badly is the drought felt that we had prayers for rain in church on Sunday last. The fact that poor cottagers in the adjoining parish of Aldworth have to pay 4d. for a pail of water is also plain evidence of the scarcity, their deep well having run dry, as have also all the ponds and tanks about; so that they have to fetch a supply from the mill stream some distance away. In the village of Beedon the same state of things exists with regard to ponds and quite half of the wells; farmers have to fetch the water for their cattle some six or seven miles from the mill stream at Donnington. These are proofs of our necessities.

While referring to Beedon, I may here add

a personal word to say it is a village seven miles north of Newbury. The church of St. Nicholas is some 700 years old. I just mention this because some readers of our B.B.J. evidently think that the term "Beedon" has been adopted by myself as the name of my house, and I often get letters with "Try Beedon" in blue pencil where correspondents have addressed me at "Newbury" only.

We had an excellent Solar Wax Extractor staged at the late "Royal" Show, Birmingham. I wonder how many of our readers went home and made a Solar extractor of the same pattern and how they have found them answer? We had an abundance of glorious sunshine, continuing for many weeks, so that the "Solar" ought to have done excellent work. It would be very helpful if those who have made or used this appliance would kindly give their experiences for the benefit of bee-keepers generally.

Feeding-up and Packing for Winter.—This should now be completed, but those who have neglected to take the good advice in "Useful Hints" must bestir themselves now and feed as fast as the bees can take the syrup. Make a good syrup, not thin and watery stuff, or the bees will have to evaporate or separate the excess of moisture at the cost of "wear and tear" to vitality. Feeding generally induces breeding, and thus, if done early, the brood hatches out early in October and strengthens the colony. Packing for winter ought also be attended to shortly, and if you have any queenless colonies on hand unite them to those with a queen.

Requeening in Autumn. — Introducing queens to queenless colonies, unless the latter are very strong in bees (which is not often the case at this period of the year with queenless lots), is a waste of money and usually brings disappointment to the purchaser, besides giving no satisfaction to the dealer or breeder. Pleased and satisfied customers are the best advertisements one can have. The matter of superseding an old queen by the introduction of a young one in its place at this period is a different matter altogether, and any stock which is known to be headed by a queen of 1896 that has done well during during 1897 and 1898, should have its queen deposed in favour of a young one of 1898. There are exceptional queens which do good work in the third year, but it is not good policy to depend on the chance of this; far better be on the safe side and keep young prolific queens at the head of colonies.

Planting for Bees; Painting Hives:—Now is the time to sow hardy annuals to stand the winter, and bloom early next season. Hive roofs and covers should be painted where required, so that the interiors may be dry through the winter months. Chaff cushions are good top wraps during the winter, such cushions being excellent heat retainers. They may be made of cheap, unbleached calico, cut the size of the hive inside, and if about three parts filled they will tuck in at the sides better than a cushion quite full; the calico should be washed before using it, or it will most likely get mildewed in damp, foggy weather.

Winter passages.—A good plan to give passage to the bees from one comb to the other, so that they may not starve in long spells of very severe weather, is to lay three little strips of wood side by side across the tops of frames when packing up for winter. The strips must be large enough to allow the bees to pass easily, and bevelled at the ends so that the quilt may lay close on the frames, at the outsides all round where the projections of brace-combs are left on the top of frames. These, of course, allow passage-way over the tops of frames.—W. Woodley, *Beedon, Newbury.*

INSECT PESTS.

SOWING WHITE CLOVER FOR BEES.

[3400.] All sorts of "blight" and insect pests have been troublesome this year. After our experience of the heat wave, and having seen how insect pests thrive under conditions favourable to them, we can the better understand how troublesome insects are to bee-keepers in warmer countries. My bees have been worried by a plague of wasps by day and a plague of moths by night. The moth is as large as a common butterfly, light brown in colour, with an orange coloured thorax. Does the death's head moth, so troublesome to bee-keepers in warm countries, visit the apiaries of British bee-keepers? When you can devote space to it, a description of this enemy of bees would help us in recognising it, the better so if you can give an illustration of it. The larvæ of the wax moth have grown to the size of small caterpillars this season.

Our white Dutch clover is producing such fine heads of seed by the roadsides and on waste land this year as I never saw before. The warm weather enabled the bees to work the late growth more than usual. It well repays bee-keepers in districts where bee-forage is limited to sow a few pennyworths of white clover seed on waste land, and by the roadsides. A little sown now, before rain, will be of some use next year.—W. Loveday, *Hatfield Heath, Harlow, Essex, September* 26.

BEES AT THE MOORS.

HOW TO PREVENT STEALING THE HONEY.

[3401.] Referring to 3390, p. 373, it may not be possible to stop it unless the hives are near a dwelling, but two precautions might be taken; one would be padlocks on the hives, it might easily be done, I think, with Meadow's Heather Hive; and in the case of other hives, too, and it would also hinder the wind blowing roofs off. But another would be to stamp

every section with a rubber stamp ; the violet dye of the ink would sink into the wood and at least make the honey unsaleable in section form, and when sold by the owner be an advertisement for him. — ALPHA, *Hull, September* 25.

OUR WILD BEES.

(*Continued from page* 379.)

After having used its sting, it does not lose the organ, and can therefore inflict an unlimited number of painful punctures on its unfortunate victim without necessarily incurring any harm to itself. I have frequently kept this species in hives, and have found it impossible to subjugate it with smoke and the ordinary quietants ; it has also a very disagreeable habit of sticking about one's clothes for a long time without making any noise, occupying itself in probing the cloth in various places until its presence and exact position is suddenly made manifest by a sharp sting.

But *B. agrorum*, and all our other British surface builders, have a different plan in defending their nests. When the nest is opened the workers lie perfectly still on their backs, among the moss and hay, ready to clutch at and sting any foreign object that comes into contact with them. *B. agrorum* is at a great advantage in this mode of defence, since in colour it resembles the nest-material so closely that it is easily overlooked.

The humble-bees have many enemies. One of these is a species of wax-moth. When the parent moth has been successful in finding a nest, and has laid her eggs therein, it is practically doomed to destruction, for as the larvæ approach maturity, they riddle the comb with their tunnels, devouring all the brood and honey, and so the once prosperous colony is speedily reduced to a mass of web-covered débris. The nests under observation in my hives used to suffer a great deal from the ravages of this pest, and very often the mischief was not discovered until it had gone too far to be remedied. Mr. Cowan, however, suggested that I should use naphthaline as a preventive, and this has been completely successful, through, I believe, putting the female moth off the scent. It is worth noting that *B. lapidarius* (a species that I have experimented with a good deal) is not attacked by the wax-moth—at least I have not come across a nest infested with the larvæ so far, and when I once tried to raise a brood of them in one of my experimental nests they all died.

Humble-bees are also attacked by a fly—*Volucella bombylans*—the larvæ of which live in the débris at the bottom of the nest, and sometimes, I have reason to believe, they even attack the young brood. The *Volucella* fly bears an extraordinarily close resemblance to a humble bee. It is clothed with long black hair, crossed by bands of yellow and red which are placed as in one or two of our commonest *Bombi*. This resemblance seems to be an interesting instance of "mimicry." Several specimens of *Volucella*, together with some of the *Bombi* they most resemble, are shown in a wonderfully well got up case, illustrating this highly interesting subject, in the entrance hall of the British Natural History Museum, South Kensington. In my own collection there is a *Volucella* from the Himalayas, which, in the colouring and position of the bands, is the exact counterpart of a common humble-bee found in that region, and on which it is doubtless parasitic.

But perhaps the most deadly enemy to several of our best-known humble-bees, and one the history of which is fully within the range of our subject, is the closely allied and extremely interesting genus of inquiline bees known to science as *Psithyrus*. These bees, of which there are five British species, have also each a remarkable similarity in appearance to their respective hosts, but in this case the similarity may be due to a possible origin with them, and which a long-continued association may have helped to keep up. The life-history of the *Psithyrus* is interesting. There are no workers, only males and females. During June and July the females may be seen searching for the nests of the humble-bees with which they live. Having found one that is suitable, the *Psithyrus* stings the mother or queen to death.

(*Concluded on page* 386).

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Mr. S. Crawford, whose apiary is shown on the opposite page, has been good enough to send us the following particulars concerning himself, and so completely describes his place and his bee experiences that we need add nothing thereto. He says :—

It is now about eight or nine years ago since my brother and myself started bee-keeping in earnest, for although our father kept bees in the old straw skeps we never took any interest in them.

However, the modern system of keeping bees came under our notice, and we at once took to it by procuring a frame-hive, and in the autumn of the same year made our first start on the new principle by getting a couple of lots of driven bees and putting them into a frame-hive. Prior to this I had spent a few years in California with an uncle. I was then nineteen years of age. I only knew one man out there who went in for bees extensively. He lived midway between San Francisco and Santa Cruz. On returning to the old country I had a touch of the American fever for trying new inventions, and, of course, I entered one of my father's shops in Castle-de-g. Owing to failing health, I was advised

to follow some open-air pursuit, and by this time my brother's apiary had increased to three stocks, so this was the start of our apiary at Lisnacloon. I then spent about half of my time in the country where the bees were located, and increased until we had thirty-six stocks all told, that being about the number we generally keep. We sell a great many swarms and queens during the season. We are able in an average season to take about 1 cwt. of surplus per hive. We have very little trouble in disposing of this at 10d. to 1s. per section or 1 lb. jar through our own shops, of which we have one in Castlederg and one in Castlefinn, and one in Glasgow. In addition to selling our own produce, we buy the honey from small bee-keepers around here as well for disposing of retail.

We find that there is a great difference in bees for honey gathering, as there is in poultry for egg producing. We always breed from selected queens of stocks that do the best work during the season. Thus by careful selection and breeding we are able to attain better results by far than the usual run of bee-keepers about here.

After trying nearly every type and make of hive we prefer the "W. B. C." to any. It suits this climate the best. We also tried the "Wells" system, and made one hive that took four queens, and had them working in it, but they have been thrown aside owing to their cumbersomeness. We have started a good many small bee-keepers around here. Like other places, foul brood is not eradicated here. We do our best to get bee-keepers here to destroy their bees when badly affected. My brother and I both gained certificates as experts of the Irish B.K.A.

Besides bees I now keep about eight breeds of pure varieties of poultry, and have won numerous prizes at our Irish shows. We use incubators for hatching eggs.

The photo sent shows our "Ulster Apiary" at Lisnacloon, about two miles from the town of Castlederg, co. Tyrone. The first figure is that of my youngest brother, but though a large family I am the only one taking an active interest in the bees. The second figure represents myself.

MR. S. CRAWFORD'S APIARY, LISNACLOON, CASTLEDERG, CO. TYRONE.

This is a good district for bees, but our apiary is in rather a damp and out-of-the way place. I hope ere long, however, to remove to a better site. In connection with my various pursuits I get three weekly papers and one monthly, viz., the *Feathered World*, on poultry; *Our Dogs*, on dogs; and BRITISH BEE JOURNAL and *Record*, on bees. Of them all, however, the BEE JOURNAL is my favourite, especially since we have the pleasure of seeing the "Homes of the Honey Bee" therein.

In conclusion, I may say the bees have been a great source of pleasure and profit to me, and among them I have regained my health again, so I wish the BRITISH BEE JOURNAL and *Bee-Keepers' Record* every success.

OUR WILD BEES.

(*Continued from page* 384.)

It is possible that the workers, especially if they are very numerous, may succeed in "settling" the *Psithyrus* before she has a chance to get to the queen, but this seldom occurs, and more frequently the queen rushes to her doom by first attacking the *Psithyrus*, against whom she has practically no chance of victory, for the *Psithyrus* is specially armed for the contest with a hard coat of mail, which is very nearly sting-proof. (Let any reader who may here suspect me of overstepping the truth procure a nest and observe the above facts for himself. I have seen them enacted repeatedly with the utmost precision.) The rightful queen having been thus disposed of, the *Psithyrus* proceeds to take her place, and in a few days is laying eggs, which in a few days more the unsuspecting workers, who now recognise the usurper as their queen, are raising into male *Psithyri*. Of course, workers continue to hatch out in the colony from the eggs laid by the original queen for about three weeks after her deposition, and the *Psithyrus* gives these plenty to do in raising fresh batches of young *Psithyri*, both males and females. All the workers, of course, now recognise her as their queen, always supplying her with plenty of food, and she acts as such, never flying, but just doing nothing but feeding and laying eggs. Thus the workers unwittingly raise fresh murderesses of their species. One or two of them, however, generally become fertile, as a result of the cessation of egg-laying during the few days following the death of their parent, and if the colony is a strong one they will manage to raise their offspring, which develop only into drones.

The female *Psithyri* differ from the female *Bombi* in having no pollen-collecting organs, the posterior tibiæ are convex and dull, the integument or hard outer skin is distinctly thicker, the pubescence is sparser, especially on the abdomen, and the wings are very smoky. The following are the two commonest species.

Psithyrus vestalis ♀.—The hair is black, with a broad yellow band on the front of the thorax, on the third segment of the abdomen it is yellow at the sides, on the fourth and fifth it is white, often mixed on the latter with black. Length 23 mm. This species associates with *Bombus terrestris*. The yellow band contiguous with the white one serves to distinguish this from any of our similar-looking black humble-bees.

P. rupestris ♀.—The hair is black, with the exception of that on the three apical segments of the abdomen, which is orange-red, though not so bright as in *B. lapidarius*. In fact, it resembles this humble-bee, with which it associates in almost every way except in the characters given above for the genus. The wings are of a very dark smoky-brown. Length 23 mm.

In keeping nests of humble-bees, the attacks of *Psithyrus* may be easily prevented by reducing the size of the entrance to the nest so that nothing larger than a worker can pass through into it. One of my hives is made to hold four colonies, something after the plan of the "Wells" hive, and in this the *Psithyrus* "excluder" also serves the useful purpose of keeping the four queens in their respective compartments. It has often been a common sight to find a *Psithyrus* trying in vain to force a passage through the excluder.—F. W. L. Sladen, *Ripple Court, Dover.*

GOSFORTH AGRICULTURAL SOCIETY

PRIZES FOR BEES AND HONEY.

At the annual show of the Gosforth and District Agricultural Society, which took place on the 9th inst., Mr. Miles Postlethwaite, of "The Hollins," generously gave the sum of five guineas, and Mr. Benn Matterson two guineas in prizes for bees, honey, and appliances, the following being the names of winners :—

Observatory Hive, with Bees and Queen.—1st, W. Birkett, Holmrook ; 2nd, J. Branthwaite, Rowrah ; 3rd, J. Key, Arlecdon Parks.

Collection of Bee Appliances.—1st, J. J. Cowan, Egremont.

Comb and Extracted Honey.—1st, J. Key ; 2nd, J. Branthwaite ; 3rd, I. Haile, Calderbridge.

Best and Most Complete Hive made by an Amateur.—1st, J. Watson, Gosforth ; 2nd, J. J. Cowan.

Twelve 1-*lb. Sections.*—1st, J. Key ; 2nd, J. S. Southward.—(*Communicated.*)

WEATHER REPORT.

RAINFALL IN IRELAND.

	AUGUST, 1898.
Rainfall	7·20 in.
Heaviest fall on 9th ...	·88 in.
Rain fell on	21 days
Maximum temperature	75°
Minimum ,,	45°
Mean max. ,,	69·75°
,, min. ,,	52·71°
Maximum barometer ...	30·1
Minimum ,, ...	29·45

S. C. HICKMAN (major).

Newmarket-on-Fergus.

A PROLIFIC STOCK OF BEES.

Writing from Grampound-road, Cornwall, the Rev. J. A. K. says :—"I cut the enclosed from a local paper, and knowing the apiary referred to very well, I thought I would enclose it as being of some interest to bee-keepers generally.

"It may be interesting to some of your readers to know how these little industrious

creatures will show their gratitude, and repay those who keep them and will care for them. I will, therefore, give four instances from one apiary :—

"1. No. 1 stock sent forth a very large swarm on May 24, and was hived in a combination hive, which I will call for reference 'A.' On June 10 'A' sent forth a large swarm (which I call 'B') and a second swarm on June 23, a third swarm on June 26, and gave 20 lb. of comb honey. On July 8 'B' sent forth a large swarm, and a second on July 19, a third on July 21, and gave a lovely rack of 21 lb. sections of honey.

"2. No. 2 stock gave 98 lb. in beautifully worked and sealed sections.

"3. No. 3 stock gave 84 lb. in sections well made and filled.

"4. On June 28 two very large first swarms were united as an experiment (one of the queens being disposed of), and hived in a large bar-framed hive; on the top of the frames was put the queen-excluding zinc, over which were placed three tiers of sections and frames combined, and at the end of July 150 lb. of comb honey was taken from these supers, leaving the stock itself full and untouched.—BEE-KEEPER."

Echoes from the Hives.

Helmsley, North Yorks.—Writing in "Useful Hints" in B.J. of August 25, p. 331, our Editor wishes that "the glorious weather would hold out a bit" longer, to gladden the hearts of moor men at the heather. That wish was expressed some time ago, and it has been fulfilled, for everything points to a good return from our Yorkshire dales. Bedale, owned by the Earl of Feversham, is twelve miles long, and a long stretch of moor land on both sides of the dale is a mass of heather bloom. Bees have been working well on it, so it bids fair to be a fine heather season for bee-keepers in North Yorkshire.—W. DUNNING.

Queries and Replies.

[2103.] *Transferring Bees.*—In sending my subscription for B.B.J., may I be allowed to ask a question. I have watched with interest all through the season how willingly you give advice to beginners, and this urges me to seek your help in the following :—I have five stocks in frame-hives and several in skeps. I want to drive three lots from skeps into a frame hive. I intend taking two frames from each of my other hives so as to winter them upon eight. My first question is : Will it cause fighting if I drive three lots together and then put them on to the frames taken from other hives? 2. Will dark honey do for feeding bees just as it is, or does it require water with it? 3. If it does, which is the best way of mixing it? The honey-dew has spoilt our harvest. Hoping for your early reply, W. T., *Lavenham.*

REPLY.—1. If you are competent to drive the bees properly, they may be all driven in to one skep, and when thrown out in front of frame-hive will run in without fighting. Prepare the frame-hive properly beforehand, and all will go well. It would make assurance doubly sure if you sprinkled the bees lightly with a little flour as they ran in. 2. If you have sealed dark honey in frames give it the bees and so save the risk of feeding at the season when bees are prone to start robbing if not carefully managed. 3. If extracted honey is given, thin it down a little with hot water stirring well, and give it to the bees while warm.

[2104.] *Extracting Wax.*—I enclose some wax which I have extracted from combs taken from skeps. I was told by an expert that I ought to get 2 lb. of wax from all the combs. I have only got 10 oz. ; some in one wide cake (piece sent), and the rest all floating about in small drops and pieces like enclosed. Can you tell me why it does not all form one cake on top of water, as said in the descriptions of how to render wax in your paper at different times? I put the combs in a large bag made of cheese cloth, weighted with stones, and put them in a large iron vessel, what I suppose is called a copper, with a fire underneath, in the stable yard. I put the combs in the boiling water at 11.30 a.m., and the fire was let out about 3 p.m., and now at 8 p.m., on lifting up the bag, I see the cheese-cloth is thickly coated outside with wax. Why does this not rise to the top of the water? Ought I to next day reboil the bag of combs again ; or is it done once done for ever? I shall be so glad of a little help in these details.—BEESWAX, *Worcester.*

REPLY.—We cannot possibly tell why the wax in your case refuses to rise to the surface of water after boiling for over three hours! We never had any such difficulty as the bag below surface of water being found "thickly coated with wax." As for the wax not forming "one cake on top of water," it seems obvious that there was not sufficient wax to cover the surface of water, hence the "small drops." We should only be too pleased to afford help to our lady correspondent, but we are nonplussed by the details given above.

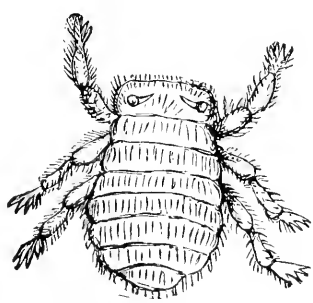
[2105.] *Do Bees Uncap Sections and Carry Contents Below.*—1. Are bees likely to uncap sections left on too long and carry the contents below? I took off a rack of sections at the beginning of this month in which ten were completed and sealed over, and five sections had combs half or three parts drawn out, but quite empty. 2. I believe bees usually fill the cells as they go on, and if this is so, am I right in supposing that the honey from these has been taken below? 3. I have a rack of sections

still on one hive, but if there is no fear of their uncapping the sealed sections I should prefer to leave it on till the unsealed ones have been emptied by the bees, as these will be useful next year, but if I remove them, having have no extractor, I am afraid they would not be in condition for completing next year?—G. W, *Hanley Castle, Worcester.*

REPLY.—1. Bees seldom uncap combs and carry contents below in autumn, though they will remove unsealed honey readily after the season is over. 2. You are wrong here. It is quite usual to find a whole comb partly filled, and, as the bees complete filling the upper portion first, sealing begins there and gradually works downward. 3. It is best to uncap all partly filled sections and allow the bees to remove the honey below as you possess no extractor, then wrap up carefully to protect from moths and store away for future use.

[2106.] *Bee Parasites.*—I shall feel obliged if you will be kind enough to inform me if a small red parasite with which my bees are more or less covered on the back is of a hurtful nature. I have not noticed this parasite on the bees which alight on the entrance boards but those in the interior of the hives are very distinctly infected.—S. B. P., *Bath, September* 17.

REPLY.—The above query crops up as regularly as each autumn comes round; it may be well, therefore, for the benefit of those still ignorant of the bee-pest referred to, to again give an illustration, together with particulars regarding it from a former issue of B.J., which reads as under:—The *braula cœca*, or blind louse, is not indigenous to this country, and



Braula Cœca (or blind louse).

luckily for British bee-keepers, it will not increase here, the climate being too humid for it to thrive or live long. It is usually imported on the bodies of foreign bees, and although it may increase during the summer season in the south, our winters are generally fatal to its continued existence. The parasite has a special partiality for the queen-bee, which is usually pestered by from four to ten of the active little creatures. The accompanying illustration represents the parasite (much magnified, of course), in its perfect form and also in its undeveloped condition. Fumigation with tobacco smoke causes them to drop off the bees and combs, when they may be brushed from the floor-board and burnt. The floor-board should then be washed with diluted carbolic acid, and if this operation is repeated a few times the stock may be rid of the pest.

Bee Shows to Come.

October 1 to 8, at the Agricultural Hall, London.—Honey Exhibition in connection with the Third International Exhibition of the Grocery and Kindred Trades. Classes (for Master Grocers only) for Sections and for Extracted Honey.

October 5 and 6, at the Public Hall, Caterham Valley, in connection with the Caterham Fanciers' Show. Honey classes open to Sworey, with liberal prizes for Twelve 1-lb. Sections and for Twelve 1-lb. Jars Extracted Honey, also for Wax. Schedules from J. Kilby, Caterham Valley.

October 8, in the Town Hall, Hamilton, N.B.—County of Lanark B.K.A. Annual Show. Valuable prizes for Honey, &c., in Open Classes. Schedules from John Cassells, Cadzow-buildings, Hamilton, N.B.

October 18 to 21, at the Agricultural Hall, London.—Show of Honey and Bee Products, in connection with the British Dairy Farmers' Association. Liberal prizes for honey, &c. Schedules from Wm. C Young, Sec., 12, Hanover-square, London, W.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

M. S. (Durham).—*Late Drones.*—September 21 is very late for drones to remain in a hive in normal condition. If the stock is queenless or the queen is failing, this may account for their retention. It may, however, be the long spell of fine weather has something to do with it, as you say the bees are extremely active, bringing pollen in daily.

A DISAPPOINTED BEE-KEEPER. — *Bees Deserting Hives.*—1. Names and addresses should always accompany letters, not necessarily for publication, but as a guarantee of good faith. 2. The bees have evidently deserted the hives owing to the stores being all gone. The robbers will most likely have been the bees of other hives. 3. The comb sent is very old and full of pollen; it is, in fact, "pollen bound," and thus useless for breeding or storing purposes. 4. On what

page of either "Guide-Book" or "Modern Bee-Keeping" do you find anything about "inserting a tunnel to prevent robbery"? You must, we think, have some book in mind other than those named.

W. M. S. (Higham Ferrers).—*Suspected Comb.*—There are slight traces of disease in comb sent.

E. S. L. (Stoke-on-Trent).—"*Homes of the Honey Bees*" *Photos.*—So far from these being finished there seems every probability of the bee-garden pictures being a feature in our journals for a long time to come. Our main difficulty is to get them in print fast enough to meet the natural wishes of readers. Send yours on and we will with pleasure give it its turn in the order received.

R. Aston (Newport).—*Keeping Empty Combs Free from Moths.*—Place combs in cupboard or fairly air-tight box, and burn a little sulphur in bottom in a metal receptacle, and close up for a few hours occasionally. After which pack in paper with some small pieces of naphthaline in each package.

E. Walker (Erith).—*Microscope for Foul-brood Bacilli.*—A one-twelfth oil immersion objective is suitable for detecting *bacillus alvei* or foul brood.

A. B. (Sittingbourne).—*Dark Honey.*—Sample sent is dark, but not of bad colour, and would sell when granulated, as it is rapidly becoming.

E. J. (Aldridge).—*Honey Sample* sent is good clover honey, and 56 lb. for a beginner from one hive is not at all bad for such a season as this.

J. H. H. (Bedale).—*Mead.*—Sample sent has been spoiled by secondary fermentation setting up, and will not keep.

G. F. (Chichester).—*Honey Samples.*—1. It is surely a mistake to suppose that the sample of honey sent is gathered from red clover. We do not find a trace either in colour or flavour of red clover honey. 2. It will be necessary to warm the honey slightly by immersing in water made hot enough to bear the hand in order to clean the honey before extracting. It is rapidly granulating.

J. C. (Barrhill).—*Queen Cast Out of Hive.*—The queen has—for some reason—been "balled" by her own bees.

C. H F. (Skipton).—*Queen Missing in Post.*—We have not received a queen in such a box as you mention. She must have miscarried in the post.

A. Hutchinson.—*Inspected Comb.*—There is no foul brood in comb sent. Nothing more than a cell or two containing dead chilled brood. We cannot undertake post replies on bee matters except under very pressing need.

F. W. (Filey).—*Purchasing Built-Out Combs.*—We cannot do more than advise insertion of a small advertisement in our prepaid column for these; or to keep a look out for such when offered for sale therein.

M. M. (Saltburn-by-Sea).—*Harvesting Surplus and Preparing for Winter.*—1. There is practically no chance whatever of bees doing anything on heather four miles away. Nor can you expect any surplus to be stored in shallow-frames given to the bees so late as end of August. 2. There will be no danger of bees being overcrowded by contracting hives to eight frames for winter. 3. Any wedges used to raise hives from floorboard in hot weather should be at once removed and entrances contracted considerably if the slightest sign of robbing are seen. Wedges ¾ in. thick are not suitable; ⅜ in. thick is quite sufficient. 4. We don't think any fear need be entertained because of the suspicious drone-cell.

H. T. W. (March).—*Swarms in September.*—A swarm small enough to go into a quart pot found hanging on a tree in September may be regarded either as a "hunger swarm" or a lot of orphan bees that have lost their queen and are seeking a home anywhere.

F. McC. (Ecclefechan).—*Super Foundation for Brood Combs.*—Of the three samples sent only one (No. 3) is intended for use in brood frames. The others are super foundation of "thin" and "extra thin" makes respectively, We should ourselves on no account use either of the latter for brood.frames. All three are of good quality, Nos. 1 and 3 especially so.

Susan (Oxford).—*Help Wanted.*—As you have applied to whom we presume to be the Secretary of the Oxford B.K.A., and he does not know any one who can assist you, we fear we are unable to do so, knowing no one at the moment in your immediate district.

F. H. L. (Guildford).—See reply to "S. B. P.," page 388.

Combs from J. D. (Cærdys) and J. P. (Derby) contain "chilled brood" only. In the first and last named cases the brood has been, apparently, dead for some time.

With regard to the packages of combs sent for examination, which have been so numerous of late as to get somewhat beyond control so far as early replies, we beg to report as follows:—Samples from D. Whale, S. W. N. (Bury St. Edmunds), and O. S. (Surrey), are badly affected with foul brood, and should be dealt with drastically. Less serious, but still undoubtedly diseased samples, are those of F. W. (Filey), Mrs. W. H. W. (Colchester), H. J. (Walsingham), and "Anxious" (East Sheen). In all cases the bees should be got off their present combs, if worth saving. It is only waste of time to winter affected colonies on their present stores.

Special Prepaid Advertisements.

Twelve words, Sixpence; for every additional Three words or under, One Penny.

YOUNG English fertile QUEEN WANTED. State price to MILLEDGE, Brentwood, Essex. X 71

EXCELLENT HIVES STOCKED, 30s.; Small Swarms, 5s. Free delivery. SUTTON, Burston, Diss. X 62

FINE EXTRACTED HONEY, £3 per cwt. AVERY, Repley, Surrey. X 70

BEE FLOWERS.—Limnanthes, 50 for 1s. 3d.; White Arabis, 50 slips, strike readily, 1s. 3d. TAYLOR, Old Hall-lane, Fallowfield. X 66

PURE ENGLISH HONEY, 6½d. per lb. Tins free. Second quality, 4½d. Sample 2d., cash or deposit. A. COE, Ridgwell, Halstead, Essex. X 68

YOUNG QUEENS from driven bees, healthy and futile, to clear at 1s. 6d. each, post free. R. BROWN, Flora Apiary, Somersham. X 64.

FOR SALE, EXTRACTED and SECTION HONEY. Sample. GEO. CROMBIE, Hotham, Brough, Yorks. X 60

FIRST Quality EXTRACTED HONEY FOR SALE in bulk at 6s. 6d. per dozen. PETHER, Assenden, Henley-on-Thames. X 69

BEES FOR SALE. Strong, healthy 4-bar framed Hives, one Straw Skep. What offers? LODDER, Woodrow, Stourton Caundle, Stalbridge, Dorset.

FINE SELECTED ENGLISH QUEENS, tested, 5s. each, sent in introducing cage. W. WOODLEY, Beedon, near Newbury.

THOS. J. HORSLEY, has comfortable APARTMENTS for brother bee-keepers visiting the Isle of Man.—Merridale House, Empire-terrace, Douglas, Isle of Man. W 27

EXTRACTED HONEY, in ½ cwts., 4d. lb. Tins free. Sample 2d. Deposit system. RICHARD DUTTON, Terling, Witham, Essex. X 35

FOR IMMEDIATE SALE, several strong Stocks in Frame-Hives and Skeps. First-class condition. Apply, OWEN, Greenfields, Shifnal. X 49

OFFERS WANTED for some good SECTIONS and EXTRACTED HONEY. Sample 3d. Approval. SPEARMAN, Colesbourne, Andoversford. X 42

PRIME WILTSHIRE HONEY FOR SALE. Several cwt. at 6d. per lb. E. W. FLOWER, Apiary, Amesbury, Wilts. X 43

YOUNG QUEENS.—Two left, 3s. each. Guaranteed healthy, fertile, and safe arrival. A. SIMPSON, Mansfield Woodhouse, Notts. X 72

QUEENS RAISED under most favourable conditions 5s. each, with introducing cage. Post free. Safe arrival guaranteed. Importer of foreign queens. Address, Rev. C. BREREETON, Pulborough, Sussex.

SMALL SWARMS with young fertile queens for building up or uniting to queenless stocks, 5s. 6d. case included, on rail. Fertile queens 3s. 9d. each, delivered. ALSFORD, Expert, Blandford.

FOR SALE, two STOCKS of BEES in bar-framed hives with lifts, sections, &c. Two stocks in skeps. All strong and healthy. Also Extractor and accessories. What offers? J. H. D. BEALES, Catmore, Wantage.

QUANTITY of NORWICH CANARIES, 8s. 6d. per pair. Will exchange for good Honey Extractor or Bee-Appliances, to value. Give full particulars. H. CLEAVER, 8, Northcote-street, Leamington. X 63

WANTED, good EXTRACTED HONEY. Send sample. Exchange good Stocks in Straw Hives, '98 Queen; guaranteed healthy. WOODS, Normandy, Guildford. X 59

BEST SORTS of POTATOES, SCARLET RUNNERS, and SHALLOTS. See my advertisement in last week's *B.B.J.* I have also one bushel of very fine Shallots. W. LOVEDAY, Hatfield Heath, Harlow, Essex. X 61

Prepaid Advertisements (*Continued*).

QUEENS, natural raised, about 50 FOR SALE. All young, fertile, and healthy. 2s. each, post free. Safe arrival guaranteed (less by the doz.). A. J. CARTER, Billingshurst, Sussex.

PLANT NOW: Narcissus Stella, per 100, 2s. 6d.; Leedsi, 2s.; Duchesse de Brabant, 3s. 6d.; Poeticus ornatus, 2s. 6d.; Majalis, 1s. 6d.: double Gardenia-Flowered, 2s.; Biflorus, 2s. Also Limnanthes Douglasii, 6d. per 100. SANDS, Redhal, Worcestershire. X 44

LACE PAPER for GLAZING SECTIONS, in several neat patterns and colours (white, pink, and French grey). 100 strips, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Post free. Best quality. W. WOODLEY, Beedon, Newbury.

THE extraordinary fine weather so late this year enables me to offer 100 TESTED 1898 QUEENS, specially raised (now laying well), at 5s. 6d. each. Post free in my perfected travelling and introducing cage. Quality and safe arrival guaranteed. HENRY W. BRICE, Dale Park-road, Upper Norwood.

THE SCOTTISH BEEKEEPER.

PUBLISHED FORTNIGHTLY. **3s. 3d.** per annum, Post free.

Send stamp for specimen copy of current number. It will please you.

WILLIAM ORMISTON,
BIGGAR, N.B.

MR. H. NEWSOME BAXTER,

Sedbergh,

Bees, Honey, and Appliances.

Cat A Log

W. P. MEADOWS,

SYSTON, LEICESTER.

Royal Show, Birmingham.

6 Entries, 5 First and 2 Second Prizes.

NEW CAT-A-LOG,
with Prize Exhibits, Post Free.

MODERN BEE-KEEPING

A HANDBOOK FOR COTTAGERS.

Thoroughly revised and brought up to date by the Council of the British Bee-Keepers' Association

Eighth Edition.

Seventieth Thousand.

Price Sixpence. Post Free Sevenpence.

"BRITISH BEE JOURNAL" and "BEE-KEEPERS' RECORD," 17, King William Street, Strand, W.C.; and all Booksellers.

THE MANAGEMENT OF STRAW SKEPS. Designed to teach the Cottager how to obtain the best results at the least possible cost. Price 1d. Ditto in Welsh, 1d. *British Bee Journal* Office, 17, King William Street, Strand, London, W.C.

Editorial, Notices, &c.

DEATH OF C. J. H. GRAVENHORST.

It is with deep regret that we learn of the death of the abovenamed notable German bee-master, who died at Wilsnack, near Berlin, on August 21 last, aged seventy-five years. Mr. Gravenhorst was originally a schoolmaster, and it may be safely said that there are no more enthusiastic and able bee-keepers, and no men to whom we are more indebted for advancement in apiculture, than clergymen and schoolmasters.

Apiculture to be a success requires a close and earnest power of observation, and a careful and continuous study of a most fascinating portion of the work of Nature, and in this way bee-keeping also acts as a compensating power in the life of both clergymen and schoolmasters. After hard preparatory study for the services of the pulpit, or following upon the exhausting duties of a schoolmaster, how delightful is the change to an employment where Nature is the subject, and which tends to elevate the mind and to refine the taste. The teachers of Germany not only occupy themselves by instructing the young in all those studies which will prepare them for the battle of life, but a large number occupy themselves in the culture of bees, raising silkworms, keeping poultry, and in the prosecution of other minor industries.

C. J. H. GRAVENHORST.

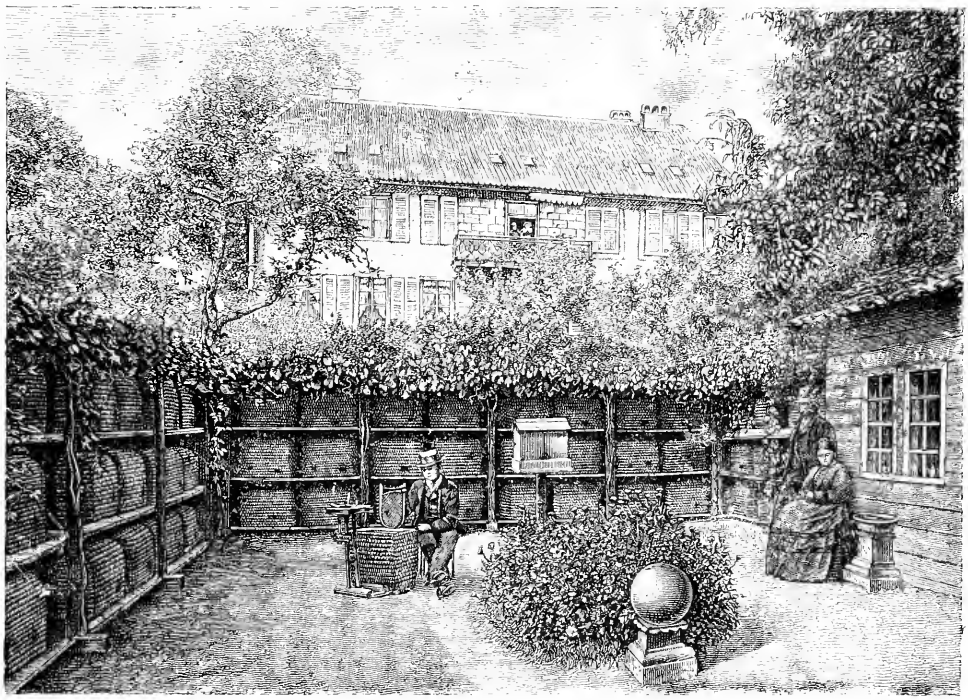
C. J. H. Gravenhorst was born September 26, 1823, and while acting as teacher he was a very earnest bee-keeper. In the year 1863, however, and following on some trouble with regard to his hearing, he was compelled to give up teaching as a means of livelihood, and, removing to Braunschweig, he devoted himself to bee-keeping as a support for his family.

In the neighbourhood of Braunschweig, especially in that portion of the province of Hanover called the Luneburger Heide, bee-keeping is in a most flourishing condition. Here are extensive plains covered with the *Erica vulgaris*, or common ling, and in the scattered villages there lives a great number of cottagers, who gain a livelihood by keeping bees; they are generally called "Heath-apiarists." The greater portion of the honey sold in Germany is derived from the heaths mentioned, and the knowledge of these bee-keepers has been handed down from generation to generation, while their skill in bee-keeping is so great that Berlepsch, after visiting Luneburg, declared that these apiarists were "the most skilful bee-keepers in Europe." The hive used by the "Heath-apiarists" is in shape almost exactly that of the common straw skep, but nearly double its height from crown to floorboard. From top to bottom the inside measurement is 18 in., and the diameter 14 in. It is made of rye-straw, and bound with canestrings. The wall of the hive is $\frac{1}{2}$ in. to 2 in. thick, and so strong that a man's weight will not bend it. The entrance is near the *top* of the hive, and for cogent reasons which are apparently satisfactory to their minds, the Heath apiarists would never think of having the entrance at the bottom of the hive.

It was among these masters of the craft, then, Gravenhorst perfected his knowledge of bee-keeping. The movable comb-hive had already been invented by Dzierzon, and used by Berlepsch. It was also tried by Gravenhorst, but the latter, though admitting the superiority of such a hive to those previously in use, considered the old Luneburg hives in some respects better. His aim was to unite the advantages of the straw hive with those having movable combs; and in order to make the transition simple and easy he, in course of time, invented the hive called the "Bogenstülper" (see p. 393), which he brought out in the year 1865. Dzierzon, in his "Rational Bee-keeping," gives the following description of

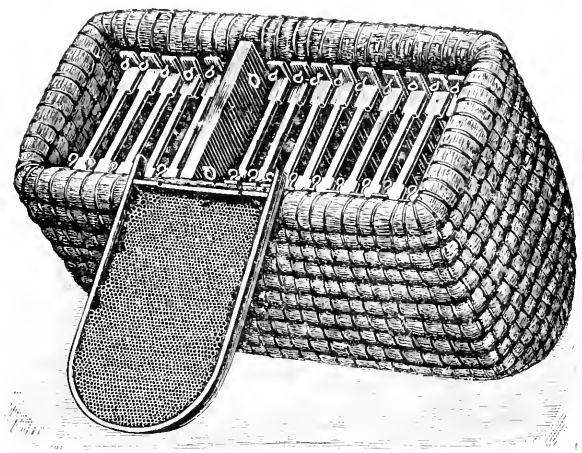
this hive.—"Gravenhorst's Bogenstülper is a straw hive, extended in length—a double hive, as it were—about as long again as wide, with corners as rectangular as possible, only rounded off above, and so, in shape, not unlike a high-arched baker's oven. It is not accessible from the side, but below, and is, therefore, quite suitably called stülper (that which may be tilted). It is called Bogenstülper (bogen, a bow or arch), from the form of the frames with which it is fitted. These are of the shape represented in the figure—usually fourteen in number—in which the bees, assisted by guide-comb, build the single combs. In the crown, under the arch, a kind of rack is placed, and the arched frames are let into its notches. The frames are made still further secure by driving two short nails into the top of the frame, coming one on each side of the rack, and below, the side-pieces are firmly fixed to the hive-wall by longer wire nails; but these latter can be drawn out after the hive has been turned up. Thus, when the two contiguous frames have necessarily been somewhat pushed aside, the frames can be taken out without difficulty, and be either replaced and made firm in the same or in any other similar hive. That no advantages may be lost, all 'Bogenstülpers' must have a similar width, and are therefore made upon a machine. Division-boards are necessary for limiting the room, that may be too great for a moderate-sized swarm, or for setting up a special honey-room, as well as finally for placing two or three different stocks in the same hive for the winter. These division-boards have the same size and shape as the frames carrying comb, and are similarly fitted in and fastened. Perhaps the entrances are most suitably situated at half the height of the hive, and every hive may have two—in one of the long sides, and at some distance from one another. If a third should for a short time be necessary, it had better be cut on the level of the floor."

About the year 1873 Mr. Gravenhorst published the first edition of his book "Der Praktische Imker" (The Practical Bee-Keeper). This work was originally a small pamphlet, but as succeeding editions were called for by the public, it has considerably increased in bulk, and is now a goodly-sized book. Not the least interesting feature of the work is the introduction of the portraits of eminent bee-keepers. Though in this work Mr. Gravenhorst shows, as we may expect, an evident bias in favour of the "Bogenstülper," no less than fourteen other hives have been described, and many illustrated, as instance the Langstroth, the Heddon, the Cowan, and others. Mr. Gravenhorst was able both to read and write the English language, which has enabled him to study and describe the advancement of bee-keeping both in England and America, as well as in Germany.



A GERMAN BEE GARDEN.

In October 1883, he started a new bee-paper, *Illustrierte Bienenzeitung*, in which are freely given the experiences made in his own large apiary, as well as the most important improvements in apiculture in other parts of the world. The wood engravings, both of his "Imker" and his newspaper, specimens of which we reproduce in this biographical sketch,



THE BOGENSTULPER.

are far above the average, and show great care in their production.

In the year 1884 he was much troubled by the opposition of neighbours to bees. They declared that they were a nuisance, and that they must be removed. He was loth to leave the home where he had lived so many years, and he contested the point, but unfortunately, however, the strong opposition of his neighbours prevailed, and compelled the removal of the bees. Mr. Gravenhorst appealed from court to court, and the German bee-keepers stood nobly by him, helping him to defray his legal expenses, but the lawsuit was finally lost, and he was obliged to sell his old home in the city of Braunschweig. He then moved his bees to Storbeckshof, near the valley of the Elbe.

Mr. Gravenhorst visited England in the year 1879, and was present at the Kilburn Show.

The bulk of the facts embodied in the above obituary notice are gathered from an article—by our senior editor Mr. Cowan—which appeared when Mr. Gravenhorst was included in the series of articles on "Our Eminent Bee-keepers" published in these pages a few years ago. Mr. Gravenhorst continued his editorship of *The Bienenzeitung* up to the time of his death, and it is now one of the most influential among the many bee journals published in Germany. He also translated "The Honey Bee: Its Natural History and Physiology" into German, and our senior editor's work has now a large circulation in that country.

It only remains for us to add that Mr. Cowan will, we are sure, feel Mr. Gravenhorst's loss as that of a personal friend with whom he was in constant correspondence up to the time of his death.

We have peculiar pleasure in reproducing the illustration of a German bee-garden, with its quaint straw hives packed away on shelves as is the custom in Germany They form a marked contrast to *our* bee-garden pictures, as does the wondrous Bogenstülper, here shown, to our modern frame-hives. It will be a source of wonder to many to know that they are preferred by many of the "heath-apiarists," who use them in preference to any other hive.

We close by offering on behalf of British bee-keepers our sincere condolence with Mr. Gravenhorst's family, whose bereavement is a direct and personal one in the loss of one who may be truly called a notable and worthy master of our craft, and who has left his mark in promoting all that is good in it.

DR. LORTET ON FOUL BROOD.

(*Concluded from page* 382).

I had only once an opportunity of examining the queen of a hive infected with foul brood, the property of M. Matthey, of Bassins. The eggs of this insect were healthy, and contained neither bacilli nor virulent granulations. The queen herself was perfectly healthy, a point which I was able to place beyond a doubt by means of a careful post-mortem. I hesitate to draw any conclusion from this isolated instance, though I confess that, judging from the course the disease takes, I do not believe that, as a rule, the malady can be propagated by the rearing of larvæ produced from infected eggs.

In my opinion, therefore, it is always the digestive canal of the nurse-bee which is infected, and it is always by the act of feeding that the adult bee infects the digestive canal of the larvæ, the death of which latter is the speedy result of such inoculation.

Therefore, a knowledge of the above facts leads me to the following conclusions :—

1. The bacteria of the third form described, as already shown by Mr. Cheshire, are in effect the true cause of foul brood. They are the active agents of contagion and of the propagation of the disease. Numerous laboratory experiments, too long to be described here, prove this beyond the shadow of a doubt.

2. Seeing that the foul brood bacteria must necessarily kill all brood the digestive canal of which is inoculated by the act of feeding, it

appears to be absolutely useless to endeavour to cure these larvæ, as all their tissues are rapidly invaded by the virulent granulations* into which these bacteria resolve themselves.

3. Adult bees, whose digestive canal is infected by the foul brood bacteria, may frequently survive for a considerable period. Some even, owing to special circumstances, seem to resist the virulent stage of the malady. We must therefore direct our efforts to the digestive canal of the worker-bees, the feeders of the queen, if we desire to attack at its source the evil which may spread with lightning rapidity among the rising generation of larvæ, which is the sole hope of the colony.

IV. The treatment, then, ought to be internal and as energetic as our little patients are willing to allow. External treatment, by means of fumigations or sprayings of any kind, are (I do not for one moment deny) also helpful, since these methods contribute largely to the disinfection of the hives, combs, and tissues of the bees, &c. It is even possible, under certain circumstances, to succeed in diminishing the virulence possessed by the bodies of the larvæ after death during the process of desiccation. But I must repeat that such external treatment can only be useful as an auxiliary, and I greatly question whether it has ever been successful in curing of itself a hive attacked by a well-authenicated case of foul brood.

The foul brood bacterium seems to be very fastidious with regard to the conditions of its existence. The media in which it can be developed are rendered sterile by the introduction of infinitesimal quantities of well-known antiseptic substances. We are, therefore, justified in supposing that these same substances, if the bees can be made to absorb them, will prevent the invasion of the digestive canal and the surrounding parts by the bacillar bacteria, will destroy those that may have already lodged there, and will thus prevent the infection from spreading to the brood in the act of feeding.

The space at my disposal is too limited to permit of a detailed description of the numerous experiments which led me to fix on an antiseptic of the first rank, introduced some years back as a valuable antiseptic remedy in the case of intestinal derangements in man. This substance is napthol β, which owes its introduction into general practice to the valuable researches of M. Bouchard, Professor to the Faculty of Medicine of Paris. This excellent antiseptic cannot injure the bees, and they take to it the more readily as it is not very soluble, and therefore is not easily absorbed by the intestinal walls. Notwithstanding this, even when administered in minute quantities—*e.g.*, in doses of 0·33 grammes to 1,000 of liquid, it effectually prevents all fermentation, decomposition, or other changes caused by the micro-organisms. The media most favourable for the development of foul-brood bacteria are rendered perfectly sterile when treated with a proportional quantity of naphthol.

Lastly, thanks to experiments made with some full hives partly attacked by the malady, which have been kindly forwarded to me by some of my correspondents, I have ascertained that a syrup medicated by a dose of naphthol in the proportions mentioned above is amply sufficient to rid foul-broody bees from the parasites contained in the digestive canal. In cases where the infection has not laid too strong a hold of the parts surrounding the intestine, the cure seems to be speedy and complete. Even in captivity and under very adverse sanitary conditions, the insects soon regain all their old activity and liveliness. The treatment which I venture to recommend to the serious attention of apiculturists is as simple and rational as possible :—

In the early spring, before eggs are laid, administer to the diseased hives as large quantities as possible of sugar syrup containing 0·33 of a gramme of naphthol β. The naphthol should be first dissolved in one litre of pure water, with one gramme of alcohol added to facilitate its solution. The liquid thus obtained is employed in making the syrup in the usual manner. I am quite certain that with this dose the bees will readily take to the syrup, which is in itself a powerful antiseptic. I need scarcely add that first-rate hygienic conditions are also necessary if we desire to give the bees the vitality and recuperative power which play so important a part in enabling living organisms to resist the inroads of virulent microbes.—Dr. Lortet.

* I employ the word granulations purposely in preference to the term *spores*, which is used by several writers. I cannot bring myself to believe that true sporulation, similar to that observed under certain conditions in bacteria of anthrax and in that of blood from spleen, really takes place in foul brood.

HONEY SHOW AT HORSHAM.

The annual show of honey was held at Horsham on August 18, in connection with the Horsham Horticultural Society. The show proved a success in every way, and the exhibits staged on three-step staging presented a pretty and attractive appearance.

All the exhibits were of excellent quality. In all 353 lb. of honey were exhibited for competition, the entries numbering forty-eight. In the centre of the staging we noticed the silver medal given by the Association, and won by Mr. Kelner, exhibited in a glass case, and also an observatory hive, showing native bees and queen, exhibited by Mr. F. W. E. Kinneir, who arranged and managed the show.

During the afternoon the Rev. C. Brereton, lecturer to the West Sussex County Council, gave useful demonstrations in practical bee-keeping, and handling, driving live bees, and other practical information. The bee tent was visited by hundreds of persons during the afternoon. The Rev. C. Brereton and Mr.

Freeman officiated as judges of the exhibits, and made the following awards :—

Display of Honey (not exceeding 20 lb.)—1st, M. Kilner, Billingshurst ; 2nd, S. Bailey, Itchingfield ; 3rd, T. Evershed, Billingshurst.

Twelve 1-lb. Sections.—1st, M. Kilner ; 2nd, T. Evershed ; 3rd, W. F. Emptage, Lydwick.

Beeswax.—1st, M. Kilner ; 2nd, S. Bailey.

Six 1 lb. Jars Granulated Honey.—1st, S. Bailey ; 2nd, T. Evershed ; 3rd, W. F. Emptage.

Shallow Frame of Comb Honey.—1st, M. Kilner ; 2nd, G. Pack, Goldings.

Twelve 1 lb. Jars Extracted Honey.—1st, M. Kilner ; 2nd, W. F. Emptage ; 3rd, S. Bailey.

COTTAGERS' CLASS.

Six 1 lb. Sections.—1st, S. Bailey ; 2nd, E. Coldman, Horsham ; 3rd, F. J. Silvester, Capel.

Six 1 lb. Jars Extracted Honey.—1st, A. Parsons, Crawley ; 2nd, G. Smith, Rapkins ; 3rd, F. J. Silvester.

Super (straw, wood, or glass).—1st, S. Bailey. —(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

EXPERIMENTAL COMB BUILDING.

[3402.] It may perhaps interest some of your readers to know the result of a novice's experiments in comb building, respecting which I asked your advice in Query [1922] ; it is as follows :—1. A very strong double swarm was started June 3 on ten frames fitted with full sheets of foundation, and was supered on June 17 with ten standard frames similarly fitted and wired. From this was taken ten fully worked-out combs yielding about 31 lbs. of extracted honey, and later on five more fully worked-out combs and one imperfect comb, but no honey was extracted on this occasion. 2 and 3. Swarms were started June 4 and 5 respectively on seven frames of foundations, and were supered June 17 with ten standard frames and starters. From these stocks were taken fifteen fully drawn out and four imperfect combs and about 46 lbs. of extracted honey. No particular attention was paid to these hives, and no interference with the work which was taking place therein, except the occasional moving of frames as required. Each had its half pint of syrup from starting to supering. The honey, however, is dark and inferior in quality owing entirely to the season and no fault of the bees or mine.—THOS. G. B., *Milverton, September* 30.

OUR REPORT FOR 1898.

[3403.] Knowing that a good many bee-keepers approve of intercommunication between readers as being advantageous all round, I send on my report of the past season. I, or rather we (for my sister and I are joint partners in the bees), started 1898 with four stocks, including a "Ford-Wells" hive, and we secured 120 lb. of honey from our stocks. This is just one-half of what we had in 1897 ; still we are well satisfied with our result. We only worked one stock for comb-honey, and from this we got only five really good sections, all the others (27) were completely spoilt by the *wooden* separators warping. The hive was quite dry. 1. Can you tell me what warped them ? They all twisted the same way, and the cells they touched were empty. The "Ford-Wells" hive yielded most honey of any of the four stocks (45 lb.), and used their shallow chamber which hangs under the brood nest a little, and I think this would effectually prevent swarming. In June I found one of our stocks slightly affected with foul-brood, so having cut out all affected cells I put supers on, intending to put them on new combs in August, but on opening up brood nest I found it full of healthy brood, and could not find one affected cell. 2. Do bees cure themselves if they are strong ? Foul brood rages in Cheltenham at present. There seems plenty of "keepers of bees," but very few "bee-keepers." I have not had a single sting from my bees this year. I use a veil but no gloves. I think people need not fear stings if they are quiet and judicious in choosing their days for manipulating. I got a very nice little stock of bees out of an ash tree. I had to chisel 6 in. of a knot away before I got to them, and I was then able to take the combs out in pieces and tie them in bar frames. I got the queen, and all the rest of the bees joined her in a hive I had ready. They gave me 30 lb. of honey. All our honey is dark, but of very good flavour. I find a good bit of sugar is wanted below in some colonies this autumn. Why do they store in the supers, when the brood nest is empty ? If you will kindly answer my one or two queries it will much oblige.—J. E. and J. V. W., *Westal, Cheltenham, October* 1.

1. Without seeing a sample of the separators used it is difficult to say what caused the warp. The wood used in making may be too thin, or it may have been green (*i.e.*, unseasoned), but it is only guess-work to offer an opinion worth having from a distance. (2) We

wish it were possible to answer the query in the affirmative, though we have heard of diseased stocks becoming healthy without any measures being taking towards curing.

METEOROLOGICAL

Nine months rainfall at Buttermere, Wilts., the highest station in the county, viz., 847 feet above sea-level :—

January	·58
February	1·84
March	·79
April	1·83
May	3·70
June	1·96
July	·25
August	·98
September	1·41
	13·34

Rain has fallen on 105 days, but till September 29 the amount never reached ½ in. in twenty-four hours.

The thermometer, 4 ft. from the ground, has not touched freezing point since April 6.

W. E. Burkitt, Observer.

October 1, 1898.

WEATHER REPORTS.

Westbourne, Sussex,

September, 1898.

Rainfall, 1·69 in.
Heaviest fall, 1·56 in., on 29th.
Rain fell on 6 days.
Below average, ·83 in.
Maximum Temperature, 77°, on 8th.
Minimum Temperature, 33°, on 29th.
Minimum on Grass, 26°, on 29
Frosty Nights, 0.
Sunshine, 243·3 hrs.
Brightest day, 2nd 12·1 hours.
Sunless Days, 0.
Above average, 76·2 hours.
Mean Maximum, 66·6°
Mean Minimum 47·6°.
Mean Temperature, 57·1°.
Above average, 3·1°
Maximum Barometer, 30·55°, on 3rd.
Minimum Barometer, 29·60°, on 30th.

L. B. Birkett.

Rainfall in Ireland.

September, 1898.

Rainfall	3·52 in.
Heaviest fall on 8th ...	·68 in.
Rain fell on	15 days
Maximum temperature	81°
Minimum ,,	40°
Mean max. ,,	69·23°
,, min. ,,	50·27°
Maximum barometer ...	30·62
Minimum ,, ...	29·33

S. C. Hickman (major).

Fenlue, Newmarket-on-Fergus, co. Clare, Ireland, September, 1898.

SEASONABLE QUESTIONS.

ANSWERED BY G. M. DOOLITTLE.

ABOUT SEPARATORS.

Question.—Do you advise the use of separators in producing comb honey? A beekeeping neighbour says that money put in separators is thrown away, and, worse still, because bees will not store as much honey where separators are used as where they are not. What is your opinion in the matter?

Answer.—There is no question but bees will store honey in sections without the use of separators; but the question is regarding its *marketable* shape, where stored without them. I first used separators in 1872 on a small scale, to try the feasibility of them. These were cut so as to leave ½ in. between top and bottom of the sections and the separator, as I felt sure they would retard the labour of the bees while storing comb honey, inasmuch as they apparently divided the bees into small clusters. To test the matter thoroughly I used a part of the apiary without separators, and even went so far as to leave the bottom pretty much entirely off the sections on some hives, to see how much the gain would be; but at the end of the season each was about balanced as regards the result in surplus honey, and I began to think that the claim of more honey without separators had no foundation in fact. But I found I had made a blunder in cutting my separators too narrow, in my anxiety to separate the bees as little as possible, for the bees built their combs through the half-inch space, where they were in any way crowded for room.

The next year the separators were cut ½ in. wider, and some were slotted so as to divide the bees as little as possible. Some were used with and some without separators. The result was no perceptible difference as to yield, while many of the sections without separators could not be sent to market at all, as the combs in them were so bulged and crooked that it was impossible to crate them. I finally adopted a separator as wide as the inside of the section, less ¼ in. at top and bottom with no perforations of any kind, and to-day, although I have experimented many ways since then, and a quarter of a century has passed away, I see no reason for abandoning the separators as then chosen, but, on the contrary, many reasons for still continuing their use, a few of which I will give :

First, I often wish to move the sections about to a different position on the hive, and exchange them with other colonies, to start these colonies to work as soon as possible, believing that better results can be secured in this way. If I did this without separators I should get very uneven combs, as my experience has taught me.

Second, I wish to take off the sections as soon as a sufficient number are sealed over to warrant the work in doing so, while they are "snow-white," and not leave them on the

hive till all are finished, and the first capped over all travel-stained by the bees. Now, if we do this, taking out one-third or more, and place those partly filled or empty, except the foundation used for starters, in their places, unless separators are used, the bees will lengthen the cells of those farthest advanced, so as to crowd the others, thus making irregular combs, as we often have them when putting an empty frame between two full ones in the brood-chamber during a honey-yield, and before any of the honey-cells are sealed.

Third, by the use of wide frames with separators we need take none of the precautions about the nice adjustment of the sections and hive, which is always a part of the directions where sections are to be used without separators, but simply slip our sections into the wide frames and clamp them together with no further trouble. I should want to use the wide frames, even did I use no separators, to keep the sections clean, and free from propolis, if nothing more. Were such wide frames used, section honey would reach market in much finer shape than it often does now. From all of my experience and observation up to the present time I believe that section boxes cannot be used to the best advantage without separators; hence I consider them one of the greatest inventions which have been made to help the bee-keeper, and expect to continue their use until I am convinced that I am wrong in the above conclusions.

REMOVING BEES FROM HOUSE ROOF.

Question.—A swarm of bees came and went into our house, near the roof, in the early part of the season, and I wish to get them into a hive. Can it be done? If so, how?

Answer.—If the questioner is willing to have his house torn to pieces to the extent necessary for getting the bees and honey out, there should be no difficulty in changing the bees from the house to a hive, especially if he can call to his aid some bee-keeper of some experience living within a few miles of him. Briefly outlined, the course to pursue would be as follows:

From the inside or outside of the house (just which is most convenient to work from) make a small hole through to the bees; and with a bee-smoker, or by a person smoking a pipe, blow smoke through the hole till the bees are caused to fill themselves with honey, which should be in about five minutes, when you will proceed to tear off the partition of plastering, clap-boarding, or shingles, as the case may be, till the bees and combs are of easy access, when you will proceed to transfer the combs to the frames of the hive, as given in any book on bee-keeping. As the combs will be likely to contain much honey at this time of the year, more pins or transferring-clasps will be needed to hold them in the frames than would be necessary if the transferring were done when there was little or no honey in the combs, else they may, from their great weight, fall out of the frames. The middle of a comfortably warm day should be chosen for this work, unless there are other bees in the neighbourhood which would be liable to cause trouble from robbing. In such a case do it toward the close of a mild day commencing soon enough to get the job completed before dark. After the house has been torn away so the bees can be gotten at handily, the bees should be made to cluster in a box, if possible, by placing such within easy access of them, just above the combs, so that, as comb after comb is taken out, they may crawl up into the box and be clustered there by the time all the comb is fitted into the frames. When all the bees are in the box set the box with the open side out, in the shade, if the sun is shining hot, and leave them thus for half an hour, so that they may cluster together like a swarm, thus causing them to mark their location anew as does a swarm when leaving the parent hive. Besides, they can then be easily hived by jarring them out of the box in front of the hive after it is lowered to the ground, and placed where it is to stay. Fit combs of honey in the frames till at least 25 lb. is in, as that is about the right amount for winter, after which the rest can be used by the family. If there should not be this amount, feed sugar syrup to make up the deficiency. If from any cause you fail to get the bees in the box they will, after a little, cluster in a swarm somewhere near where they were, when they can be hived in the box, and then taken to the ground and put in the hive without the necessary precaution of having them stand the half hour; for by the clustering of the bees in any place, without combs, when filled with honey, for a half-hour or so, they are caused to consider themselves as homeless, after which they will mark their location anew and stay where put; though it might be well for you to take the precaution of leaning a wide board up in front of the entrance to the hive, so that the bees will bump against it in starting out, thus causing them to mark their location anew, even if you do not happen to get everything just right in your operations. If, in addition to this, the house is repaired before the bees fly, and a sheet, or something of that kind, is put over the former place of entrance to their old abode, so as to make it appear like a strange place, scarcely a bee need be lost.—G. M. DOOLITTLE in *Gleanings* (American).

A SEASON'S WORK IN HIVE-MAKING.

THE BEE-APPLIANCE TRADE IN THE U.S.A.

The business manager of the A. I. Root Company writes in *Gleanings* of September 1 as under:—"We find, on footing up our tally-books, where we keep a record of the different styles of hives packed for shipment in orders that we have sent out this past season, nearly

3,000 Danz. hives, about 3,000 dove-tailed chaff hives, about 7,000 ten-framed Dove. hives, and over 50,000 eight-frame Dove. hives, besides a great many of other styles for other people, so that, altogether, we have disposed of at least 70,000 hives the past season, or about double the record of any previous year. It is also safe to say that we could have disposed of from 10,000 to 30,000 more if we could have supplied them promptly. We do not anticipate such a record next year, as there are, without doubt, a large number of the hives sold this year in the hands of bee-keepers, unused. In view of the outlook we have decided not to build the large addition to our factory, for which we had plans prepared two months ago. We do intend, however, to put in the larger engine, and extend our factory building 20 ft., adding some new machines, and changing others, so as to increase our capacity when needed.

Queries and Replies.

[2107.] *A Beginner's Queries.*—I have tried a start in bee-keeping for some little time past, and up to date of writing have not succeeded in acquiring the knack of properly manipulating the bees and hives, or filling their requirements very well. I find cross-combs were built under the brood-nest in the shallow "lifts," and, as there was such a lot of cold weather at the end of May and commencement of June, I feared to deprive the bees of eggs and young grub. The honey season was also very short here, owing to the drought and the unusual spell of hot weather, which caused the farmers to cut hay almost before the bees had started getting at the clover. I do not wish to trouble you often, as I see in the BEE JOURNAL many replies that suit me, but I do want to get ready for next season with strong stocks, so as to hope for some result. I therefore ask the following questions:—1. In three bar-frame hives of same pattern the bees have built combs on the bottom bars of the frames in the brood-chamber. Should I cut away the combs, clean up the frames, and transfer into new hives? I was so busy I had not time at the right moment to take away the shallow lifts which for ventilation I had put under the brood-chamber? 2. I tried to make some syrup for autumn use from Recipe No. 7 in the "Guide Book," but I think it is too thin. I boiled it about twenty minutes. Would it have become thicker had I boiled it longer? 3. Do the bees make honey from this syrup and store it away in the combs? I find in several hives that there are some frames and combs not capped over. I spent 10s. in candy cake last winter, and, as I have no surplus honey this year, I find it very expensive. 4. Would it do to put a Canadian feeder into an empty hive some distance from the stocks? I have tried that, but the wasps take possession and fight the bees. 5. I fear I put on the section-racks too soon, with the intention of preventing swarming. Is this so? 6. Two swarms at different times flew away in my absence, but I hived the first swarm and two casts. Can I reduce the number of hives from seven to five by uniting? I could then hope to get some frames of honey in reserve for winter feeding and giving to the bees as required. 7. If I only give the syrup at night, and take away in the morning, how long would it take to get "feeding up" done?—RUSTRA, *Romsey, September* 27.

REPLY:—1. The main of the trouble detailed above apparently arose from your not understanding how to manipulate and properly manage the shallow-frame box ("lift" you call it) placed below brood-nest to prevent swarming. Had foundation been put in it and managed properly, no combs would have been built below bottom-bars of frames. However, seeing how late in the year it now is, we should leave the stocks undisturbed till spring, then do as proposed. Place the new hives on stands of those removed. No need to paint same colour as before. 2. "Guide Book" instructions have not been adhered to. If made as per recipe therein, and boiled as directed, good syrup will result; try again. 3. Bees cannot turn syrup into honey, but will store it in combs as they do honey. 4. Don't do as proposed; give food to each hive requiring it above its own frames. 5. Probably the weather was not suitable at the time. 6. Yes, the stocks may be reduced as proposed by uniting the bees to nearest colonies and taking away the empty hives. But you must see to feeding up rapidly before cold weather sets in. 7. Give a quart of warm food in a rapid-feeder each night till they have enough of stores. You must read your "Guide Book" more carefully, and abide more closely to its instructions, then all will go well.

[2108.] *Clearing Air Bubbles from Extracted Honey.*—I have some honey in 1 lb. jars which I intended exhibiting shortly, but the honey is just full of little air-bubbles, which quite spoil its appearance. It will be eight days to-morrow since it was jarred, and the air-bubbles are not getting any less. If you could let me know of anything I could do to get rid of them without injuring the quality of the honey, I would be very much obliged.—"SCOTIA," *Lanarkshire, October* 3.

REPLY.—The jars of honey should be put in a pan large enough to hold the whole dozen. Lay the jars on bits of wood, placed some little distance apart, to allow the water (added later) to flow between them. When ready, pour in warm water to within an inch of jar top and set on a fire. Heat the water until it begins to feel too warm to hold the finger in with

comfort, then remove the pan from fire and leave it on the "hob" or fire-side for a couple of hours. Allow the whole to stand till the water is merely warm, when the jars may be lifted out and left (*uncovered of course*) till next day. If any white "scum" (*i.e.*, air-bubbles) remain on surface of honey, skim it off carefully before tying down. The "cautions" are :—(1) *Do not overheat the honey* or you may spoil the aroma. (2) Take care that jars do not stand on bottom of pan, but have *water underneath*.

[2109.] *Moving Bees to the Moors.*—1. May I ask your correspondent "Alpha," Hull (page 374), to kindly say how he prevented the frames of a hive from shaking, when moving to the moors, with shallow frame lift, as this will not rest on the frames, but on the hive sides, with which the frames are on a slightly lower level? A strip of felt over the cars might answer, but would be uncertain, giving either not enough pressure to prevent shaking, owing to the felt being too thin, or if too thick would cause a crevice all round the hive for cold air to enter it.—G. M. S., *Keswick*.

Reply.—We leave "Alpha" (Hull) to deal with his plan of packing his hives for the moor, but so far as the question put by G.M.S., regarding the frames being on a "slightly lower level" than the hive sides, he is entirely in error. No properly constructed hive (to our mind) has its frames lower than the hive sides, and so far as our own use we would not tolerate a hive in our apiary so made, for reasons which we thought would be obvious to any practical bee-keeper. Apart from this, however, unless we are much mistaken, G.M.S. uses the hive known to bee-keepers as the "W.B.C." hive, and as the identity of W.B.C. is somewhat closer akin to ourself, we may be permitted to say that we would not have any hive as a gift for personal use if the top bars were not perfectly level with the hive sides.

[2110.] *Points Regarding Honey-dew.*—The past season in this district has been one of the most disappointing it is my lot to remember. Spring was very late and consequently stocks were very backward in coming forward. Swarms were also very rare. When supering time did arrive, which was at least a fortnight late, bees entered and worked with a will, hopes went up for a good time in store. Then followed the knowledge that bees were gathering the wrong class of stuff. I have had plenty of experience other years with honey-dew (owing to abundance of oak trees), but never have I known such a quantity to be gathered before. Early in June it was being carried into hives rapidly, and kept me busy watching and waiting for a chance; to put on clean combs, but that chance never came, consequently I have now some hundredweights of stuff about as black as—well, coal-tar. Stocks have, however, prospered well on it so far as increasing in numbers and being in good heart. I have had a quantity of very good combs built (from starters); the wax appears to be a greenish colour. I have, with difficulty, secured a little honey, but very dark. Many thanks are due for your clear explanation of "What is Honey-dew." There are, however, some things I am not quite clear on. 1. Is honey-dew secreted by all trees and plants? This year I have noticed it on oak, ash, hedgerows, currant bushes, and rose trees. 2. Do bees gather it before it passes through the aphidæ? I am inclined to think not, as where bees have been gathering I have noticed an abundance of the fly. 3. What is to be done with it? Will it make winter food for the bees? If so, it might be utilised for that purpose, and kept for next autumn, too, as I believe it will keep. I have myself made good wine or mead from honey that had a large portion of honey-dew in it. This year, however, it is three times darker, and more of it by some hundredweights. Can any one suggest what is to be done with this unusual heavy crop. Can it be sold?—H. Hill, *Ambaston, Derby*.

Reply.—1. No. 2. In many cases, yes; though not in all. In fact, honey-dew, so-called, is gathered plentifully from certain trees—notably conifers — without a single aphida being found on the leaves. We hope to show a sample of such honey-dew at the B.B.K.A. Conversazione next month. 3. Does not your own experience, as given above, tend to confirm the view we have already expressed, viz., that bees will winter well on it?

[2111.] *Dealing with Foul Brood, and other Queries.*—Referring to foul brood. Will you kindly explain how it is that certain chemicals are stated to kill the bacilli, but to have no effect whatever on the spores, and still these same chemicals are to be used to disinfect the hives after removal of bees? 1. If the spores are still left unharmed in the cracks of a hive, it can hardly be said to be disinfected! Is it that the spores actually do hatch out when fresh bees are put in, but that the placing of naphthaline in the hive immediately kills the bacilli off? 2. Would all the cork-dust have to be removed in order to disinfect a hive so packed? I believe some "Wells" hives are so made, and with no provision for getting it out easily. 3. What do you think of the following way of disinfecting which I have heard of :—Smear the inside of the hive with kerosene (paraffin) and set it alight, and when the wood commences to char, throw a little water in, and clap the lid on. The steam being then under pressure, is forced into all crevices. There is an interesting account of a "New Method of Disinfection" on page 132 of last week's *English Mechanic*, by Formaldehyde. 4. Is this going to be a cure for foul brood? 5. I think no mention is made in the *Guide Book* of cork, or chaff packed division boards, either for wintering

or for nucleus hives, and so I ask, do you consider they have no advantage over the ordinary $\frac{3}{8}$ in. thick wooden ones? 6. If you recommend them, will you please say if $\frac{1}{8}$ in. boards and $\frac{5}{8}$ in. cork dust space is about right?—G. M. S., *Keswick, October* 1.

REPLY.—1. After having it fully explained how difficult it is to destroy the spores of foul brood, readers are supposed to use whatever intelligence they possess in dealing with the bacillus when it again reaches the active stage. This is what the "Guide Book" recommends. 2. Our best answer to this question is don't pack hive sides with cork dust. We never do it ourselves and don't recommend it. 3. This method is not new at all, but, if well done, is effective. 4. Would that we could say yes! but truth and experience compels us to say no! 5 and 6. Some use such; we do not.

Bee Shows to Come.

October 1 to 8, at the Agricultural Hall, London.—Honey Exhibition in connection with the Third International Exhibition of the Grocery and Kindred Trades. Classes (for Master Grocers only) for Sections and for Extracted Honey.

October 5 and 6, at the Public Hall, Caterham Valley, in connection with the Caterham Fanciers' Show. Honey classes open to Surrey, with liberal prizes for Twelve 1-lb. Sections and for Twelve 1-lb. Jars Extracted Honey, also for Wax. Schedules from J. Kilby, Caterham Valley.

October 8, in the Town Hall, Hamilton, N.B.—County of Lanark B.K.A. Annual Show. **Valuable prizes** for Honey, &c., in **Open Classes.** Schedules from John Cassells, Cadzow-buildings, Hamilton, N.B.

October 18 to 21, at the Agricultural Hall, London.—Show of Honey and Bee Products, in connection with the British Dairy Farmers' Association. Liberal prizes for honey, &c. Schedules from Wm. C Young, Sec., 12, Hanover-square, London, W.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

G. M. (Coleraine).—*Bees Robbed by Wasps.*—The piece of comb sent contains no brood at all, only wholesome fresh-gathered pollen. It is evident that the stock has been queenless some time, probably shortly after the swarm issued, and, being subsequently weak in numbers, has been robbed of its honey by wasps.

R. W. (Cornwall).—*Third Class Expertship Certificates.*—Full particulars as to requirements for this examination can be obtained from E. H. Young, 12, Hanover-square, Secretary to the B.B.K.A.

W. H. BROOK (Bristol).—*Sale of Hives, &c.*—We should advise an advertisement in our prepaid column; we know of no one wanting second-hand appliances at present.

A. K. (Alexandria, N.B.) — *Buying on Approval.*—1. We only know the dealer referred to as being established in business at the place named for a good many years past. 2. If the agreement was for "Goods on Approval," you are quite within your right in refusing if not satisfactory.

T. McG. (Bamfort).—*Foul Brood.*—Comb sent is affected with foul brood. Two balls (broken in half) of naphtholine is the proper quantity for ordinary use.

REV. C. S. (Derby).—*Quality of Honey.*—Sample sent is thin but of fairly good flavour, but we cannot judge colour from so small a sample. Being thin it is not likely to keep well.

A. P. (Rutherglen).—*Suspected Comb.*—In one cell only in sample sent can we find any trace of disease, all the remaining cells contained only chilled brood.

TYRO.—*Honey Extractor and Nucleus Box.*—You have omitted to send name and address, see rules at head of this column.

COL (Swindon).—*Suspected Comb.*—We find no disease in sample sent. If all other combs are in as good condition there is no disease in hive from whence it came.

J. E. L. (Ivybridge).—*Suspected Comb.*—We have been waiting for sample of comb supposed to be sent us some time ago, but to the present we have no trace of it.

A. P. J. (Long Stratton).—*Drones in Hives.*—The retention of drones is caused either by the fact of a failing queen or that the late fine weather and stores coming in have induced the bees to defer the "killing off" time till thus late in the season.

E. G. (Weston-super-Mare).—*Queenlessness.*—(1) Many hives still have brood this season, though unusually late. "No brood" would not of necessity be indicative of a lost queen at this period of the year. (2) If the stock is queenless, re-queen without delay. We should fancy the queen was missing.

A. K. W. (Carlisle).—*Queens Stopping Breeding.*—See reply (1) to "E. G."

C. A. P. (Castlegregory). — *Phenyle and Naphthol Beta.*—Phenyle solution sprayed on combs under proper conditions will not injure brood and eggs. Add naphthol beta to syrup whilst hot. See "Guide Book," page 163, as per your No. 2 plan. It then becomes properly incorporated, and it is only the spirit that is driven off by the heat.

CHIPPY (Stockport). — Get "Modern Bee-keeping" (7d), or the "Guide Book" (1s. 8d. by post).

Editorial, Notices, &c.

THE DAIRY SHOW,

AND CONVERSAZIONE OF THE B.B.K.A.

A WELCOME TO LONDON.

We invite the attention of our readers to the advertisement on front page of this issue, wherein appears full particulars regarding the Dairy Show which takes place next week at the Agricultural Hall, London. This—to bee-keepers—ever popular honey show will, we doubt not, be as instructive and interesting as its predecessors, and this is saying a great deal; but it is also the final exhibition of bee-produce for the year, and in addition affords an exceptional opportunity for members of the craft and all who are interested in the bee industry for making Thursday next, the 20th inst., the occasion of their annual trip to the Metropolis, without being, so to speak, "lost in London." They can meet brother bee-keepers at the "Dairy" during the day, have a friendly chat about "the bees," and, after meeting old bee-friends or becoming acquainted with those who were hitherto strangers, they will, we hope, find an open door at the Board-room of the R.S.P.C.A., 105, Jermyn-street, St. James's, a welcome waits them from the Council of the parent Association. There, after participating of the B.B.K.A. Council's hospitality, a couple of hours may be pleasantly and profitably spent in hearing about bees and seeing such of the latest novelties as are placed on the tables for their edification, instruction, and comment. Many of those who were present at the last conversazione will no doubt come again, and we are enabled to promise a little more "elbow-room" than was afforded at Jermyn-street on that occasion, for the authorities of the Royal Society for the Prevention of Cruelty to Animals, ever enemies to cruelty to any one—in this case amounting only to a little overcrowding—have generously offered to rearrange the commodious Board-room so as to accommodate increased visitors if needed. We are hoping to have present our noble President, the Baroness Burdett-Coutts, and our Chairman, Mr. Cowan, who, though leaving England on the 22nd for another long journey in distant lands, will make an effort to come and say good-bye to us all for a time, so that there will be plenty to interest every one. It therefore remains for us—as the mouthpiece of the Council of the British Bee-keepers' Association—to offer a hearty welcome to bee-keepers.

The conversazione begins at four o'clock, and the journey by 'bus from the Agricultural Hall to Piccadilly Circus costs threepence, and occupies half an hour. Those unacquainted with London should take 'bus from Show to Holborn, then change to 'bus for Piccadilly Circus, which is close to Jermyn-street.

THE GROCERIES EXHIBITION.

INSTITUTION OF HONEY CLASSES.

The Third Annual Exhibition of the Grocery and its Allied Trades was held in the Agricultural Hall, London, on October 1 to 8. In view of the fact that it is but two years since the Inaugural Exhibition of the Grocery Trades was held, the success of the present year's show and the enormous increase in the number of entries is most remarkable, as the following figures will show :—

Year.	Competitors.
1896	165
1897	990
1898	1,672

The attendance also during the whole week was very large, the building being crowded daily and nightly.

To bee-keepers the chief interest, of course, lay in the fact that this year the directors have instituted a competition among master grocers for comb and extracted honey, and, as the Council of the B.B.K.A. were invited to co-operate and readily responded, the show became in some sense "ours." But the points of interest to bee-keepers have already been touched on in our issue of September 1 (page 341), so we need not again revert to them, and it only remains for us to say that the outcome for a first attempt was very satisfactory indeed in every way. The season unfortunately did not allow British honey to show up so well as could be wished, but the entries, which numbered forty-one for extracted honey and thirty-four for sections, were very good for a poor bee-season. And, speaking from a judge's standpoint, who has seen most of the "best honey of 1898," we can say that the quality of the produce staged was excellent. We hope another year to see the honey better displayed than it was possible to show it on the present occasion, and, bearing in mind that the directors are most anxious to encourage the honey classes, it is certain that something will be done to make the honey exhibits as attractive as other "stalls" in the building undoubtedly were.

The Master Grocers who were prize-winners may indeed congratulate themselves on a chance of opening up a trade in honey in addition to securing such valuable awards for first prize as £3 in cash, the Diploma of the Grocery Trades Council, and Silver Medal of the B.B.K.A., with £2 and £1 for second and third, and Diploma respectively.

We hope in a future issue to again refer to the show and its results, and so close by saying that Messrs. W. Broughton Carr and W. H. Harris were nominated by the B.B.K.A. to act as judges, while Mr. Councillor Shirley, Bristol, and Mr. T. S. Gower, Newport, Mon., were appointed to assist in making the awards from the trade standpoint, the following being their awards:—

HONEY CLASSES.

(For Master Grocers only).

Class 28.—*Twelve* 1-*lb. Jars Extracted Honey* (41 entries).—1st, J. Little & Sons, Chester; 2nd, R. Barber, Maidenhead, Berks; 3rd, W. Ward, York; v.h.c., F. Chapman, Wells, Somerset, and S. Bunyon, Farnham; commended, G. Shotter, Barnet; H. Spackman, Corsham; Rees Bros. & Co., Haverfordwest; J. Evans, Barmouth; F. G. Bennison, Darlington; H. Spriggs, Tetsworth; and John Berry, Llanrwst, N.W.

Class 29.—*Twelve* 1-*lb. Sections* (34 entries). 1st, F. Chapman, Wells, Somerset; 2nd, John Berry, Llanrwst; 3rd, R. Barber, Maidenhead; v.h.c., J. Jones, Oakham; H. C. W. Ward, York; commended: J. Williams & Sons, Ltd., Didsbury, Manchester; Whitehead, Swanley Junction, Kent, and J. Ainsworth, Kensworth, Beds.

THE POWER OF ASSOCIATION.

It ought not to be necessary, at this late date in the nineteenth century, to offer an extended argument to prove the power and value of organised effort.

There was a time in the history of mankind when the individual seemed to be a more potent factor in society and business than at present. There was a time when every man builded his own home and defended it by his own right arm. There was a time when every successful enterprise was projected and carried to completion by personal enterprise, personal valour, or personal wealth.

Even after tribal relations had been established and tribal protection guaranteed, success depended almost entirely on individual exertion. Cities were built, large mechanical transactions attempted, and cattle ranches established, all without syndicates.

But the world is a little older than it was. Society has changed in some respects. Almost everything is done differently from what it used to be. Now, instead of every man being his own banker, and carrying his money in the sack when he goes down to Egypt to buy corn, he writes his cheque on New York or London. Business methods have so improved that a dollar goes farther in transacting the world's business than it did in the old time. This has been brought about through organisation and combination. A great many individual dollars brought together through associated effort may be made to produce effects which never could have been brought about by the same individuals acting each for himself and independently.

Organisation has become the great fact of the age. No railroads are built by individual capital. No steamship lines are owned and controlled by one man. Great commercial enterprises are launched and sustained by combined capital and organised effort. Corporations have taken the place of the once single-handed manufacturer until it is hardly possible for one man, without capital, to compete with corporate wealth.

Since the business of the world is largely done by great corporations, the trade guilds have been a natural outgrowth, because the only way to meet organisation is by counter organisation. Men lay their heads together, form alliances for mutual protection, and thereby gain strength impossible to the single worker.

Men interested in a common purpose are enabled to unite on a common plan of action, and work to some effect. For instance, it is too large a job for one bee-keeper to attempt to fight adulteration of honey, but if he can combine his efforts with that of ten thousand other bee-keepers, all acting in unison, and that organisation acting with other associations interested in the subject of pure food, together they may accomplish something.

As Government in this country is constituted, the powers that be are ready to listen to any one who represents a considerable body of voters, if the said voters "mean business."

When a politician is asked to support a measure, he wants to know how many of his constituents are anxious about it.

All other trades and professions are organised for mutual help and protection. Bee-keepers should have one organisation so strong in numbers and influence that their rights shall be respected. The object of the United States Bee-Keepers' Union is to fill this long-felt want. Its purpose is twofold—to promote legislation helpful to bee-keepers, and to act as the guardian of their legal rights.—Hon. EUGENE SECOR, in *American Bee-Keeper*.

Correspondence.

MOVING BEES TO THE MOORS.

[3404.] The tops of the frames in the "Gayton" hive come just level with the sides, consequently when the shallow-frame lift is on they are, so to speak, "locked," and in a

similar way, when the frame covered with perforated zinc is screwed on to the top of shallow-frame lift the frames in that, too, are "locked," and so neither tier could shake. The "Gayton" is a long hive, taking twelve or thirteen frames, so there is a vacant space behind the dummy, both of brood-nest and super, this is filled by a lath 17 in. by ⅞ in., and of a sufficient width to wedge the dummy close against the frames. It should be borne in mind that I used a shallow-frame lift, not a "lift" with shallow-frame super inside. In my opinion success at the moors is only to be attained by taking a very large population, larger than a brood chamber will contain, and a young queen; my two stocks of hybrid Carniolans have come back from the moors very heavy, and with lots of bees still in the supers; the third, Ligurians, however, which had a last year's queen, have done little or no work in the sections, it is the last time I will take to the moors a queen that has been breeding all the summer. I think I may truthfully say that in proportion to their number my three stocks did better than thirty others in the same site, at least, so far as I could judge. I may say I have first a road journey of some miles, and then forty-five by rail to the moors, so that ample room and ventilation are necessary.—ALPHA, *Hull, October* 10.

CARNIOLAN QUEENS:

A WORD FOR FOREIGN QUEEN BREEDERS.

[3405.] No doubt you remember me troubling you to translate a letter into German in order to get a Carniolan queen from M. Ambrozic. It is only fair after what occurred last year to say that I have received the queen quite safe. I remember last season a B.J. reader sent to Carniola for a queen and had great difficulty in getting it. The first one never arrived, but after a second attempt the queen came, but was complained of because of being so very badly packed. I beg to say the one I received the other day was well packed and a credit to the sender. Only one of the workers was dead and queen quite safe. Many thanks to you for help given. My bees this season gave me only about half a crop, or an average of about 40 lb. per hive, the honey being of a very dark colour. Last season the average was 80 lb. per hive, and the honey was of splendid quality. My interest in the bees, however, is not flagging because of this. I have fed them well for winter, allowing each stock between 30 lb. and 40 lb. of food, made up with dark honey and syrup. I have also given to each stock a young Italian queen (a first cross with native drone), that being my pet variety. My stocks have increased from twelve to twenty, and I am hoping for a better season next year. Foul brood has not troubled me as yet, and I sincerely hope it never will. I did come across a case once in a driving expedition, and after getting home the bees I sulphured and then burnt the lot and everything attached to them. I have been very careful ever since, always inquiring if the owner of the skeps will let me slice it up for him; in so doing one can get to know the condition of the stocks that one is taking the bees from. Swarms have been scarce this season in this district. Wishing to bee-keepers every success.—O. KNIGHT, *Stonehouse, Oct.* 5.

A CURIOUS CASE.

ROYAL CELLS NOT DESTROYED.

[3406.] Verily bees do nothing invariably. I removed the queen (when they had settled down) from some driven bees and ran another in by Simmins' fasting method, but they killed her—the first failure out of many I have had; but old bees are more difficult to induce to take a new queen. On the third day after, I returned their old queen, also "fasting." When I returned her I knew there were queen-cells in the way. Forty-eight hours after I looked to see if she had been received, and, as the royal cells were still intact, concluded she, too, had been killed. The next day I again examined the hive; royal cells still all untouched; so I destroyed them, intending to introduce another queen, when, to my astonishment, I saw a queen alive and well. Now, why in October were royal cells permitted to go on? Why did the queen not destroy them? If hatched, what would have happened? Would the virgins have destroyed the old queen? It is a puzzle. The first queen was killed, as I found her dead outside. —ALPHA, *Hull, October* 10.

SELLING DARK HONEY.

[3407.] Letters frequently appear in the BEE JOURNAL from bee-keepers who have to bewail a large stock of honey so blackened by honey-dew this year that they cannot find a market for the produce. And it is certain that some readers would like in some way to render help in finding an outlet for disposing of or otherwise turning to good account the result of a year's work among the bees. It is, therefore, with pleasure that I am able to report my success in having been instrumental in disposing of at least one such stock, *i.e.*, that belonging to Mr. F. W. Norris, Church Stretton, whose stock, amounting to over 4 cwt., I have sold for him at 4d. per lb., or 37s. 4d. per cwt. in bulk, buyer supplying tins. I have promised to do my best in the same direction for another Yorkshire bee-keeper, who has 3 cwt. of very dark-coloured stuff, and should I be successful in this case I wil be pleased to do the same in turn for your correspondent H. Hill, whose letter appeared on page 399 of B.J. of October 6. It is impossible to say what quantity I can find a market for at this price, but I will willingly do my best for any others of your correspondents

in turn who will make known through your valuable medium the quantity they have to dispose of.—JAMES SMITH, *Palm Grove Nurseries, Birkenhead, October 7.*

HELPING BEGINNERS.

[3408.] Referring to the troubles detailed by your correspondent whose query appears in last week's issue (2107, p. 398), I should be very pleased to give him a call and impart any information it is in my power to give if "Rustra," Romsey, is not too far away from me.—E. C. R. WHITE, *Holbury Mills, near Romsey, October 11.*

METEOROLOGICAL

OBSERVATIONS TAKEN AT DUDDINGTON, STAMFORD, NORTHANTS, FOR THE WEEK ENDING OCT. 8, 1898.

1898.	Bar. in.	Tem. 9am deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in.
Oct. 2	30·23	47·0	68	38	30	52·6	—
,, 3	30·23	46·5	68	36	32	51·5	—
,, 4	30·26	56·8	60	47	13	53·3	·03
,, 5	30·23	56·0	59	54	5	56·4	·03
,, 6	30·14	55·1	58	54	4	55·9	·01
,, 7	30·03	54·7	57	53	4	54·9	—
,, 8	29·96	54·5	63	51	12	56·8	—
Means	30·15	52·9	61·9	47·6	14·3	54·5	*·07

* Total, ·07.

For the week ending September 17, the mean temperature, viz., 62°·5, was +5°·9, and the rainfall, viz., nil, −·62 in.; for the week ending September 24, the mean temperature, viz., 56°·1, was +0°·9, and the rainfall, viz., nil, −0·61 in.; for the week ending October 1, the mean temperature, viz., 49°·7, was −3°·7, and the rainfall, viz., ·36 in., −·36 in. The rainfall, August 28 to October 1, viz., ·50 in., is −2·50 in., and that, January 2 to October 1, viz., 12·60 in., −6·07 in. Absolute drought, August 30 to September 26, =28 days. Rain fell in September on two days, viz., ·01 in. on the 27th, and ·35 on the 29th. Mean temp. for the month, 59°·8.

P.S.—For the week ending October 8, the rainfall, viz., ·07, =1,583·61 gallons, or 7·07 tons to the acre, or 5·6 oz. to the square foot. Mean vapour tension, 0·355 in. Mean relative humidity, 88 per cent. Mean temp. of the dew point, 49°·3.

RAINFALL.

Rainfall measured at Duddington, Stamford, Northants, at 9·0 a.m. daily, January 2 to October 1, 1898 :—

1898.	Rainfall, in.	Average, in.	Difference from Average, in.
Jan. 2-29	·81	1·79	− ·98
Jan. 30-Feb. 26....	·57	1·66	−1·09
Feb. 27-Mar. 26 ..	1·27	1·27	average
Mar. 27-April 30 ..	2·10	1·98	+ ·12
May 1-28	2·28	1·92	+ ·36
May 29-June 25 ..	1·04	1·89	− ·85
June 26-July 30 ..	1·20	2·83	−1·63
July 31-Aug. 27 ..	2·83	2·33	+ ·50
Aug. 28-Oct. 1	·50	3·00	−2·50
Total	12·60	18·67	−6·07

FRED COVENTRY.

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

Mr. Richard Brown, whose apiary forms the bee-garden picture of this issue, is one whom we must define by a closer term than to merely say he is one of our readers, because we rather think that the subject of this short sketch has the interest of the B.B.J. quite as much at heart as if it belonged to himself. Anyway, if every reader made similarly effectual efforts to obtain subscribers, our "list" would, indeed, be a long one. But to know that our friend has associated himself with what he believes to be a good cause means—to use a colloquial phrase—"going in for it for all he is worth," and to this spirit is mainly attributable the almost invariable success which attends his undertakings.

An extensive fruit grower, he goes in "for best sorts only," and by his special care in packing and preparing his produce for market has secured a trade with Covent Garden and other centres of the fruit trade such as not many in this country can boast of. Ever cheery and contented with his lot, it is a real pleasure to meet him anywhere and always; for while the farmers' proverbial grumble about hard times has become a sort of truism, one has but to put the usual query, "How's trade," to be sure of some such reply as, "Never better; crops good, price satisfactory, and self well satisfied."

All this is, of course, directly personal, and perhaps a little apart from what pertains to Mr. Brown as a bee-keeper; but those who, along with the Editors of this journal, have seen our friend at his home, and enjoyed the delightfully pleasant atmosphere of prosperity and contentment surrounding the place cannot fail to see how the employer and his workmen are in accord, and how very far off is the spirit which prompts either "strikes" or "lock-outs" in larger establishments. Indeed, it is safe to say that if all men followed the sound business lines adopted in this village "workshop"—lines in which equity takes equal place with justice—all men would be the happier for it.

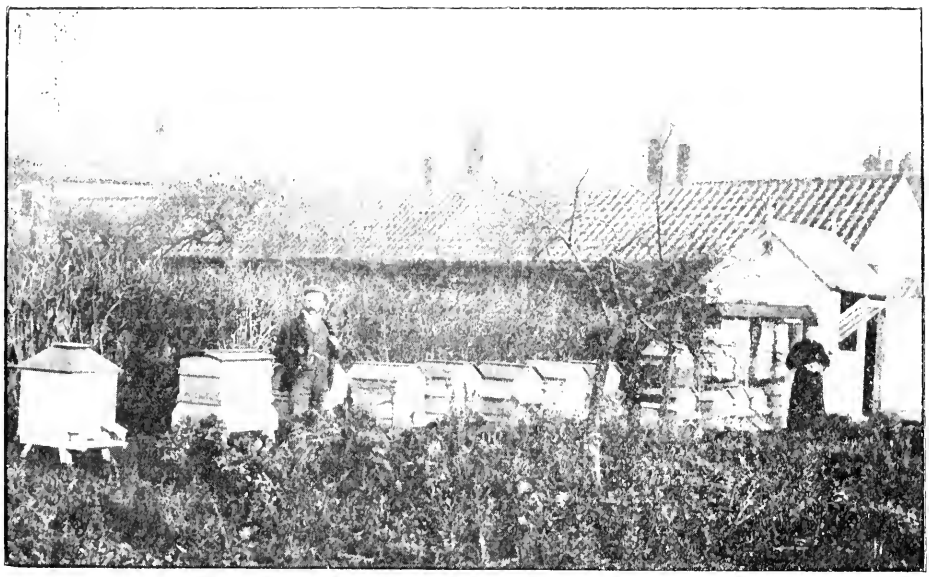
In these days of keen foreign competition, when many talk of emigration as the panacea for all the evils attending over-population in our towns, and regard with no friendly eye the bringing over of all sorts of agricultural and horticultural produce from abroad to glut our markets to the detriment of the home-grower, Mr. Brown resolved upon taking a quiet trip to the Continent in order to see for himself what there was of superiority either in the methods of growing, or harvesting, or preparing for market that enabled the foreign grower to undersell the British fruit farmer. No doubt there was a sly resolve to "pick up" what was worth bringing away in the memory; but our object in mentioning the matter is to relate what occurred when —on reaching London on his way home—Mr.

Brown gave us a call at King William-street. "Well," said we, "are you a convert to foreign methods? Are you going to leave us and emigrate?" "Emigrate!" said he. "Why I'll sing 'God save the Queen and Old England' louder than ever! Oh, dear no; we can keep in front of the best of them if we try, and I mean to do my best." The above sentiments are so exactly characteristic of the man that nothing need be added by us.

At our request Mr. Brown sends the following particulars of his bee-keeping experiences: "I began bee-keeping in Somersham in the autumn of '79 by buying half-a-dozen stocks in skeps from the parish clergyman, who was leaving. As I got the lot for £1 4s., I had a bargain. But, like all things, they were not perfection, and the spring and summer of 1880 being cold and wet only two survived. Not being deterred by a first failure, I kept on, and increased my stocks to six skeps in 1881, and the following year found me the possessor of twelve skeps. I then accidentally dropped on some old literature at an auction sale, and among it an old number of the B.B. JOURNAL. I was so pleased with what I read therein that I quickly invested in two frame-hives, and I got friend White to transfer a skep stock into one of my new hives. After this I abandoned skeps except for swarms. I found by keeping plenty of bees in frame-hives there was money in it. Perhaps not large direct profit, but as a fruit grower I found bees of very great advantage for the fertilisation of the crops, and thus, as I extended my apiary, so I extended my purse and got hold of a hobby that I love into the bargain. At the present time I am the possessor of eighty frame-hives, which produced this year (1898), as a bad year, 12½ cwt. of surplus honey, all of which has been sold.

"The apiary seen in photo faces south, but it shows only a small portion of the hives I have on hand. I have also two out-apiaries, with twenty-five hives in each apiary. In the shed next to the manipulating house (where Mrs. Brown stands) I keep such accessories as section-racks, boxes of shallow-frames, &c. The eleven colonies seen in the picture were made up of driven bees, two lots in each hive, on the 'Wells' system, of which I am a great advocate. The bee-forage in this part of Hunts is made up of fruit orchards and general agricultural produce. There is also a good breadth of coleseed, mustard, and turnip grown for seed here, so that when the fruit blossom is over the bees work on these continuation crops. Then comes the clover, and after that the bees are revelling in buckwheat, on which the bees work till late in autumn. Being an owner and occupier of land, I have greater facilities than many bee-keepers, and I always keep my eye open for any crop that is not in touch with my bees. In this way I become acquainted with farmers, and tell them how greatly it is to their advantage and benefit, as well as my own, to have bees working on their crops. I find from experience that more friends are made through bee-keeping than any other branch of agriculture.

"It has been my good fortune to be the



MR. RICHARD BROWN'S HOME-APIARY, SOMERSHAM, HANTS.

means of getting honey classes introduced at the shows of four horticultural societies by speaking up in the interest of bee-keeping to those who had the management. I also find it a great help in this direction to take an observatory hive—as I generally do when I am exhibiting horticultural produce. There is always a crowd of interested onlookers at a frame of comb with live bees and their queen, so any of our craft who care to take the trouble may soon help to swell the ranks of bee-keepers at a show by talking to them about our busy little workers and what they can do for us. It is also an excellent way of educating the masses in the wondrous ways of the bees and the healthfulness of good British honey. I sometimes wonder on reading in your pages about bee-men not being able to find a market for their honey. Why, I don't have the slightest trouble in selling all we can secure. In 1895 I sold 1 ton 5 cwt., wholesale and retail, and in 1897 I had to buy from friends to keep up the supply to my wholesale customers. It should, however, not be forgotten by all who wish to create a permanent market how necessary it is to be particular about grading their honey, and more than all not to send an inferior sample to a customer. It is sure to cause loss in the end if honey of poor quality is sold as good. This, I think, is most important to all sellers of honey. I find it easy to keep the same customers for years by dealing fairly with them, and recommend the same plan to all brother bee-keepers.

"The same course of action has been my rule ever since I started business on my own account, and as it has answered with me, it will do so with others. In my case it finds me envying no man and perfectly content with my lot in life. Providence has blessed me with health, sufficient of this world's wealth to satisfy all my needs, and a good 'Queen Bee' to share it. So far as my public work, my neighbours have made me churchwarden and sidesman for the parish, trustee of a public charity, and a Parish Councillor, besides returning me at the head of the poll as one of the managers of our School Board.

"My bee-keeping experience extends to nearly twenty years, and I hope to continue a bee-keeper so long as I live. My knowledge of the craft has been attained by close observation, helped on by the BEE JOURNAL and its worthy Editors, who, I trust, may live long and continue to be honoured by all 'bee-men worth the name.'"

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of September, 1898, was £1,407.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

Queries and Replies.

[2112.] *Removing Bees from Trees.* — I should consider it a favour if you or your readers could give me a little advice about the following :—1. There is a strong stock of bees in a small pollard tree ; they have been there about two years, close to the top. I should like to secure them (if possible) alive. The owner of the tree (a farmer) has given me permission to take saw and axe and do what I like, but I am in a fog as to know what is best to do. I have some thirteen stocks of bees and have no fear of them. 2. I have just bought seven stocks of bees in skeps ; all are well supplied with stores. I wanted to drive them, but have not yet got the frame-hives ready ; what had I better do with them ? I make my own hives, &c. ; there seems a lot of honey in the hives.—ONE IN DOUBT, *Suffolk, October* 3.

REPLY.—1. If the part of the tree containing the bees can be sawn off altogether, we should try and cut it through 2 in. below bottom of combs, and cut again above the bees ; then set the bees and tree on top bars of a frame hive and allow the bees to work down into the frame hive whenever they need room. 2. Let them winter in the skeps and transfer themselves in spring, as advised with the bees in tree.

[2113.] *Bees Moving Eggs.*—Last June I made an artificial swarm with two or three frames containing a queen-cell from my best hive and the flying bees of two other hives about to swarm, and got a box of section honey. The hive on October 2 contains a fair stock of bees and about an equal number of drones, a queen-cell, nearly ripe, containing a live queen, and about a score of sealed drones in worker cells, but no queen or uncapped brood. Where did the egg for the queen-cell come from if the last queen was a drone-breeder, and if not, why was there not a single cell of worker brood ? I cut out the cell to introduce an Italian, and so can vouch for its containing a live queen.—A DUMFRIESSHIRE BEE-KEEPER, *Moniaive, October* 2.

REPLY.—Bees have been known to carry eggs from one part of a hive to another, but we personally have had no experience of bees fetching eggs from one hive to another. We generally find in cases of this kind that some little fact has been overlooked which might throw some light on such matters.

[2114.] *Bees Carrying Food up into Surplus Chamber.*—I shall be very glad if you will give me your advice on the following :—I am now reducing the number of combs in my hives and feeding up for winter, and the combs I remove are more or less filled with honey and pollen, partly sealed. In order to clear the unsealed honey from them I have been devoting two stocks to this purpose by placing

over the combs a super containing six combs, with excluder zinc between, but I find—what I have never seen before—that instead of taking the honey down they are bringing it up, and so defeating my purpose. I do not find very many bees on the upper combs, that is, in the daytime, and cannot say how they are during the night; but they do fill and seal over the combs, I am not otherwise feeding these two stocks, and there is nothing coming in except pollen, which comes very freely on fine days; to-day great loads have been coming in. I must say that a lot of my combs removed from the hives for wintering contain pollen; is there any means of preserving this pollen for use during another season? Any combs containing pollen I have previously kept over always become useless, owing to its mildewing and drying into hard pellets.—"POLLEN," *Southport, October* 10

REPLY.—1. We have had stocks of bees winter capitally under exactly similar conditions to those described above, and this being so we advise leaving the combs where they now are until spring. 2. Pollen-filled combs are not worth keeping for the reason stated—*i.e.*, they always either become mouldy or the pollen gets so hard as to become useless.

[2115.] *A Lady's Fear Regarding Foul Brood.*—I am very nervous about foul brood in my apiary, for you will see from Mr. Hamlyn-Harris's account in your JOURNAL that I had most unfortunately brought two infected hives into my garden to manipulate. They were promptly cremated, but for twenty-four hours my bees and theirs had been promenading together on a magnificent row of echinops close by. So this explains an abnormal anxiety on my part. All the brood that there is (there is very little) in my twenty-nine hives is perfectly healthy as far as I can judge; all the *young* larvæ curled up in tight little "c's," and the older looking plump, white, and quite healthy—no flabby, straight, or yellow things. But yesterday, on examining No. 14, there was *one* cell not hatched out, and when I uncapped it with my penknife, to my horror! a little coffee-coloured substance, *not* very thick, greeted its point, and I removed a dead, *slightly* yellowish (more *cream* coloured) dead nymph (?) (*i.e.*, quite formed young bee). I immensely regret that I followed my impulse, and promptly buried it and my knife in the soil—which I have great faith in as a disinfectant—instead of preserving and sending it to you. But I send you a bit of the comb in which it was found, and the cell it occupied has the tiny bit of paper in it. 1. Do you find any trace of the bacillus in it? Does chilled brood ever, under exceptional circumstances, evolve any coffee-coloured liquid in its decomposing process? My faint hope is that this was a chilled bee, for I had rather much chilled brood in one or two hives some time since owing to cold nights. I would also say when I opened *this*, and (after changing my dress, &c.) some other hives, the bees seemed rather lazy and stupid, and had a slight inclination to fall from their perches on to my lap! 2. May this be the effect of naphthaline, for when I had this scare of foul brood I put two little balls (four halves) in each hive, and I fancy it made the queens leave off laying, and a general sleepiness appear on the scenes? Or is this natural at this time of the year? I fancy one ball in half is quite strong enough a dose at this time of the year. 3. What do you think? 4. The bees enclosed are from same hive. Can you find any trace of disease in them? 5. The little wingless *lusus naturæ* (in separate division of *mortuary*) is evidently recently hatched. Is it diseased? 6. If you find any trace of B. alvei, should I re-queen (I can find neither queen nor eggs), and put on new combs and feed with medicated syrup, as they are a *strong* lot with heaps of stores. Or, at this time of the year, with no natural food coming in, would it be better to destroy bees and disinfect hive? After putting in the *two* balls of naphthaline I had two cases of overdose—*i.e.*, uncapped nymphs, quite white and healthy, and the edges of cells *slightly* higher than normal.

P.S.—The third little packet contains a substance found at the bottom of the only sealed cell in No. 20. Is it dried pollen, or the foul brood "scale," or only the remains of the cocoon lining membrane?—"QUEEN BEE," *Bridport, October* 6.

REPLY.—1. We find no trace of foul brood in comb. Chilled brood will go dark gray, but in its advanced stage it turns into a powdery substance, whilst with foul brood it turns to a *sticky* matter, and can be drawn out in strings, so to speak, with the end of a match. It is, no doubt, chilled brood in your case. 2 and 3. With regard to the "stupid" appearance of the bees, we ascribe this to the late season; they want to rest, which is quite natural. Two balls of naphthaline in four pieces is the right quantity for a strong stock. 4 and 5. No; the little bee is an abortive production, consequent upon insufficient warmth to bring it to maturity. 6. Not under the circumstances. The little packet contains only the remains of cocoons of bees bred, perhaps, long ago.

[2116.] *Criticising Editorial Replies to Queries.*—Please excuse me for saying so, but I think at times the editorial replies to queries are somewhat hasty. In your reply to my queries (2111, p. 399) of last week's B.B.J., No. 1 contained a point mentioned to me by a bee-keeper who actually has foul brood, but he expressed himself, as not having much faith in the directions, as they seemed contradictory to him, as they did to me, without the explanation just given was added. In such a thing as foul brood it seemed a pity that everything should not be made as clear as it possibly could. Dr. Lortet, on page 394, ex-

plains the above apparent contradiction very clearly. The second query was also asked of me by the same bee-keeper, who has a hive so packed. 1. I therefore suppose that he must take your answer as an indirect way of saying, that in order to disinfect his hive he must remove all the cork-dust and burn it (even though he has to take the hive to pieces to do it), and then disinfect all the parts? Regarding the answer to my query (2109) on same page, you are quite right in saying, that the reason why frame-tops should be level with hive sides "should be obvious to any practical bee-keeper," and I have no doubt that it is so; but in this special case we are discussing Meadows' new "Heather" Hive, as mentioned by "Alpha" on page 374 (of which I have two), and must presume they are made the same as "Alpha's." The sides *do* project five sixty-fourths of an inch above the metal ends. These hives are sent out with the excluder resting on the frames, and within the hive sides, with a small T girder section rack on the excluder and also within the hive sides, and as Mr. Meadows designed the hive probably only with the intention of using the above kind of rack, there is in that case, I suppose, no objection to the projecting sides. 2. Is there any such objection? But "Alpha" uses a shallow frame lift, hence my query. 3. I also wish my query to extend to any hive with a shallow frame lift, and for the reason, that owing to imperfections (probably difficult to get over) in the stamping of "W.B.C." ends there is a variation in their thickness from almost seven sixteenths of an inch thick to a full one sixty-fourth of an inch less than seven sixteenths of an inch thick, namely, a variation of one sixty-fourth of an inch. Now, if the hive ends are cut down to be level with the smallest of these, the consequence is that the larger will prevent the shallow-frame lift from making a good joint on the hive, and this is how I take it our Junior Editor ("W.B.C.") has his hives made, as, if I *remember* rightly, in your directions in the spring of this year (either in the B.B.J. or *Record*) you urged, "that all crevices must be carefully closed, and that there was nothing better for this than strips of paper." Now, this procedure does not take my fancy at all; and all my racks sit fair and square, without any time wasted in filling crevices. I now make all my own hives, after trying one as above, with the ends reduced to seven sixteenths of an inch, which just clears the thickest size of end given, and I find, in practice, that it works very nicely. I would add that a very well-known firm of bee appliance dealers, who have supplied me with hives, also reduce to the seven sixteenths of an inch. It would be interesting to have the opinion of some of the dealers on the subject.—G. M. S., *Keswick.*

REPLY.—On the general question of "Editorial replies being somewhat hasty," by which we suppose the idea is that they are too brief to be satisfactory, no doubt it may seem so to some correspondents, but it should not be forgotten how limited is our Queries and Replies column; and "G. M. S." must forgive us for saying that more than a fair share of editorial time and space will be found occupied with printed matter above his initials in recent numbers of both our weekly and monthly journals. Not that we complain so long as the matter is of general interest. Our consolation under the charge of being "hasty" with querists, however, lies in the fact that times out of number have we been told of the "ridiculous amount of patience we display in saying over and over again what ought to be plain to any one possessing ordinary intelligence, without insisting so much on useless repetition." For the rest, we reply—1. We should not dream of advising any one to pull a hive to pieces in order to disinfect it, and would rather "burn the lot!" 2. Yes, we cannot tolerate hive sides higher than surplus chambers, for the obvious reasons already mentioned. 3. Why discuss such fractional measurements as one sixty-fourth of an inch in the make of a bee-hive? Is it not better to pack as we do by a simple plan, which is done in almost "no time."

BEES AND APPLE BLOSSOMS.

It was with much interest that I read the first article in the March *Review* on "The Sugar-Maple," and the relation it bore to our friends the bees, in getting them in shape so that they could, by the "great army of workers" produced through the stimulation of maple bloom, gather for us the tons of honey from white clover and basswood, which is exchanged for the things which make the pursuit of bee-keeping one of profit. The same line of reasoning which Bro. Hutchinson applies to the sugar-maple, holds doubly good in regard to apple bloom. There is nothing in the line of early honey that so stimulates brood-rearing as does that which comes from the pink and white blossoms of the apple trees. In fact, it has always been a proverb in this section of the country—"as goes apple bloom, so goes the season," as to honey.

More than a third of a century ago, the hand of the lamented M. Quinby penned these words: "In good weather, a gain of 20 lbs. is sometimes added to the hives during the period of apple blossoms. But we are seldom fortunate enough to have continuous good weather, as it is often rainy, cloudy, cool, or windy, all of which are very detrimental. A frost will sometimes destroy all, and the gain of our bees is reversed; that is, their stores are lighter at the end than at the beginning of this season of flowers. Yet this season often decides the prosperity of the bees for the summer. If there is good weather now, we expect our first swarms about June 1; if not, no subsequent yield of honey will make up the deficiency."

Never were truer words uttered, as applied

to central New York, and what applies to this locality will apply quite generally to the Northern States. Hence we see that the apple tree bears no mean relation to the person interested in bee-keeping, outside of the fruit it yields.

In 1877 we had the best yield of honey from apple bloom that I ever knew; and the result from the apiary that year was the highest ever obtained by the writer, which was 166⅔ lb. of honey on an average from each old colony in the spring, the most of which was comb honey.

In 1870, the second year of my bee-keeping life, we had a yield from this source nearly as good as in 1877; and at that time I tried a guessing experiment by counting the bees which came in at the entrance loaded with this delicious nectar obtained from the apple trees. It was about eight o'clock in the morning when the bees began to come in steadily with their loads; and, taking out my watch, I counted for one minute the bees as they dropped on the alighting board. This first count showed forty-two, the second count forty-six, the third forty-one, and the fourth forty-four. At 10 o'clock I counted again, and the average at that time was forty-nine to the minute, on five counts; while at 1 o'clock the average was fifty-one per minute; and at 5 o'clock the number of loaded bees entering the hive proved to be nearly the same as the first count of the morning. I figured that each bee carried a drop of nectar; then estimated the number of drops it would take for a pound (calling 9 lb. as the weight of a gallon of this nectar) as it came in from the fields; then I struck an average to get the number of bees per minute for the whole day, and multiplied this number by the number of minutes worked, and decided that the result of that day's work would be 7½ lb. I had weighed the hive in the morning, before any bees went to work, and the evening weight showed a gain of 8 lb. 2 oz. in excess of that of the morning; so I had guessed within 10 oz. of what had really come in that day. The next morning the hive was weighed again, which showed a gain of nearly 5 lb. over the morning previous, thus giving 3 lb. 2 oz. as the loss by evaporation during one night; this showing that the nectar, as it is brought in from the apple bloom, is very thin.

I consider the great value of nectar from apple bloom to lie in its stimulating quality, toward plentiful brood-rearing, and in producing stores to tide over the period of scarcity which immediately follows this bloom for a time approximating two weeks.

Apple-blossom honey is rank and strong when first gathered, but after staying on the hive till thoroughly ripened, it assumes a nice spicy flavour, though when at its best it can hardly be said to equal that from clover or basswood.

I believe that if we had the same number of bees in the hive in apple bloom that we do in basswood, and if the weather could be equally good, the yield from this source would be nearly or quite as good while the bloom lasted; but the trouble is that the bloom comes so soon after cold weather that we do not have the bees; and, still worse, the weather is usually such that the bees do not have an opportunity, oftener than one year in four, to work on the bloom more than enough to encourage brood-rearing; hence I doubt the advisability of trying to work colonies up to an unusual strength, with the hope of securing a surplus from this source.

That bees are a great help to the fruit grower is proved by the abundant secretion of nectar in the bloom of the apple tree; for I am satisfied, from thirty years of observation, that a greater secretion of nectar proves a greater need, in such bloom, for insects to secure the proper pollenisation. Nearly all are familiar with that bit of history where bees were banished from a certain township, because they were charged with injuring the apple crop by taking away the honey from the blossoms. The next year after their banishment there was scarcely an apple in the interior of that township, although there was ample bloom for a full crop. And as the trees on the outskirt of the township gave their usual supply of apples, the fruit growers willingly acknowledged their mistake, and humbly begged that the bees be brought back again.

So far I have touched only on the practical, or dollar-and-cent side of this matter. There is another side which we, as bee-keepers, look after so seldom that we grow poor, and, to a certain extent, ugly, in our "everlasting" hustle after that which shall pour mammon into the home treasury; and we go about, having continually a look on our faces which says to every passer-by that we consider "time is money." He who sees in the bees, the apple blossoms, and the ripened fruit only that which shall put money into his pocket, lives in a poor, half-furnished house. He who obtains from them only what he can sell, gathers but a meagre crop. If I find something besides dollars and cents with my bees and on the apple trees, shall I not take it? If I find in these things more than can be sent to the dining-table or the commission merchant, I feel that I have a right to put out my hand to gather it. Such a matter-of-fact tree as the apple makes some attempt to embellish its life with ornament; and in May the bees will prove to any right-thinking person that joy and happiness may be gotten from its branches. Indeed, apple trees, during each year, are like some people we know. In their young and blossoming days they are sweet and pink-hued, and then they grow acid, pale, and hard; but, in the ripened experience of later life, they may become sweet again, and more enchanting by their ministering to the calls of humanity. So, if any of us have become acid, pale, and hard in our eager grasping after the "almighty dollar" part,

which may come from the bees and the apple trees, let us once more return to the joy and sweetness we had in the springtime of life, which may again come into our lives, as the deep richness of colour comes to the ripened fruit of the apple trees in autumn. If we have allowed our grasping disposition to get the better of our inner being, something as apples led to the loss of Paradise, is it not about time that we begin to reconstruct a bit of Eden, by once more listening to that better nature, which will, if we will let it, lead us once more under the blossom-laden boughs, made pleasant with their perfume and the joyful hum of the bees?—G. M. DOOLITTLE, in *Bee-keepers' Review* (American).

Bee Shows to Come.

October 18 to 21, at the Agricultural Hall, London.—Show of Honey and Bee Products, in connection with the British Dairy Farmers' Association. Liberal prizes for honey, &c. Schedules from Wm. C Young, Sec., 12, Hanover-square, London, W.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

W. H. BROOK (Bristol)—*Sale of Appliances.*—1. Your letter having reference mainly to sale of bee appliances, an advertisement in our "Prepaid Column" will be the proper way of dealing with it. 2. All correspondence should be addressed to 17, King William-street, Strand, W.C.

D. T. G. (Somerset).—*Dealing with Foul Brood.* — If clean combs with stores are available, get the bees off the affected one at once; otherwise it would be best, if only a few cells are affected, to feed with medicated food and place naphthaline in the hive, and leave them for further treatment early next spring.

ANXIOUS (Weybridge).—*Foul Brood.*—See reply to D. T. G.

J. H. (Down).—*Honey.*—Sample sent contains "honey-dew." It is also thin and unripe, and will not keep well. The books in question are interesting mementos of the past. As we already possess both at this office, you might present them to the Library of the B.B.K.A., by whom they would no doubt be appreciated.

T. D. E. (South Norwood).—*Packing for Winter.*—In hives well stored with food it is advisable to place one empty comb in centre of frames for bees to cluster on.

A. G. (Rugeley).—*Artificial Drawn-Out Comb.*—Experiments are now being made by Messrs. Root, of Medina, U.S.A., in perfecting a machine for this purpose, and, if successful, the product will be put on the market.

ANXIOUS (Dumfriesshire).—*Dealing with Foul Brood.*—It is of no use whatever your using Naphthol Beta as described, or in any other way than by strictly adhering to the directions accompanying the packets sent out from this office.

BETA (Durham).—*Unfinished Section of Heather Honey.*—1. Unsealed section of honey cannot be preserved till next year for completion. They must be used now or given to the bees as food. 2. If used at once they are quite fit for table. 3. Unripe honey goes more or less sour after keeping for a month or two, then fermentation sets in and it becomes unfit for table use.

SCOTCH FIR (Worcester).—*Destroying Diseased Stocks.*—1. Put on ounce or so of powdered sulphur into a shallow tin, set the latter on a board and drop a red-hot cinder into the sulphur, then at once lift the hive and bees from floorboard and set it over the blue flame and in a few seconds the bees will be dead. 2. Don't use any such dangerous substances as are mentioned; sulphur is simple and effective.

J. V. (Collooney).—*Adding Naphthol Beta solution to Honey for Bee-food.*—Add same quantity by measure as directed for syrup food.

ALSIKE (Kilmarnock).—*Disinfecting Hives.*—The flame of a painter's lamp carefully directed to all parts of hives which have contained bees affected with foul brood is one of the most effectual methods of disinfecting that can possibly be imagined.

T. H. P. (Swaffham).—*Lamp Nurseries.*—We regret our inability to give the information asked for.

TOM H. (Llansamlet).—*Wintering Small Stocks of Bees.*—Four or five frames of bees well crowded and properly fed often stand the winter, but they are generally slow in getting up strength in the following spring in time for the honey harvest.

J. O. C. (Ladock), W. S. D. (Witton), and D. W. (Sidcup).—*Chilled Brood.*—Samples sent contain only chilled brood.

F. B. (Scorton) and JOHN W. (Thirsk).—*Foul Brood.*—Both samples are affected, the latter's very badly.

ALEX. KIRKWOOD (Alexandria). — *Buying Appliances.*—We never recommend any individual dealer who advertises in our columns, and we cannot advise you or take any responsibility if goods sent are not satisfactory. It is purely a business matter between yourselves.

Editorial, Notices, &c.

With the most profound sorrow we have to announce the sad news that Miss H. M. Cowan, the eldest daughter, and Mr. Herbert F. Cowan, the second son, of our senior Editor, were passengers on board the ill-fated Atlantic Liner *Mohegan*, wrecked off the Cornish coast on Friday last, and that the lives of both were lost.

It would be out of place at the present juncture for us to say any more than that Mr. Cowan will be unable to fulfil his engagement to attend the meeting and conversazione of the B.B.K.A. at Jermyn-street this evening.

BEE-KEEPING IN WILTSHIRE.

COUNTY COUNCILS AND EXAMINATIONS FOR THIRD-CLASS EXPERTS' CERTIFICATES.

A new departure—so far as direct connection between the Technical Education Department of County Councils and the British Bee-Keepers' Association—was taken a few days ago, which it is not too much to say will have an important bearing upon the future work of teaching in bee-keeping in this country.

We refer to the arrangement made by the Technical Instruction Committee of the Wilts County Council to hold an examination of candidates for the third-class experts certificate of the B.B.K.A. at Bradford-on-Avon on September 16 and 17 last. In carrying out this function direct application was made to the B.B.K.A. requesting the Council of that body to appoint examiners, and it was our privilege to be selected as one of the two persons appointed to carry out the arrangement. We are, therefore, personally cognisant of all that took place, can estimate the value of the whole proceedings, and thus be enabled to say how far, in our judgment, they were successful in accomplishing the end in view.

In the first place, then, it was—in point of numbers—a record examination, no less than twenty-one candidates entering their names, and of these nineteen presented themselves, the remaining one being unable to attend for domestic reasons only. The previous highest attendance at a single exam. was at Swanley Horticultural College on July 8, when thirteen candidates attended. The entire arrangements at Bradford-on-Avon were in the hands of the Agricultural Committee of the County Council, and by that body relegated to the Organising Secretary, Mr. C. H. Corbett, whose business capacity and thoroughness were apparent throughout the whole of the proceedings. Mr. Corbett took the wise precaution of enlisting the co-operation of a practical bee-keeper, whose assistance in matters requiring so much of foresight only bee-men can either understand or appreciate.

The "Oral" or theoretical section was held in the Technical Institute, a fine new building—towards the erection of which we believe the County Council made a grant of a thousand pounds—and for the practical section the gentleman referred to had secured a "bee-garden," in which were sufficient skeps of bees to fill all "driving" requirements, and arranged for the use of frame-hives (a little distance from where the skeps were located) for the rest of the "manipulations," so that there should be no hitch in the practical section of the examination. This bee-garden was really one of a series of allotments situated on a hill (locally designated "French Grass"), and as the practical part of the work fell to our share, we proceeded up the hill on the morning of the first appointed day, and found twenty-one skeps of bees crowded into a small space, but all occupied and in various stages of neglect and decay, from a new skep, holding a swarm of ninety-eight, to a rotten one that would hardly hold itself and the bees in it together at all. On removing some of the apologies for roofs we found the skeps beneath covered with large snails in shells, slugs, spiders, and an accumulation of all the insect vermin that seek shade from a hot sun in the day and come out at night to "worry" garden stuff and gardeners' hearts. But as an object-lesson to would-be bee experts they were admirably suited for the purpose, and served our turn well in enabling us to test the candidates' skill as bee-men. In fact, where a man has to get his skep from its floorboard by using a spade to prize the rotten straw up—and keep the bees under control while doing it to the satisfaction of an examiner responsible for avoiding a scene of disorder among bees in the "robbing" season—it shows what he is made of, and we valued his work, good or bad, accordingly.

Well, speaking for our own section of the examination, *i.e.*, handling bees, the whole of the eighteen candidates we examined did well, and proved that there had been useful teachers abroad imparting instruction that gave good results. The candidates, too, as a class, were men of intelligence and education, several, we think, being schoolmasters located in various parts of the county who made bee-keeping a part of their regular teaching. In referring, therefore, to the handling of bees there could be no mistake as to the general ability displayed, nor need we hesitate in saying that the candidates did well enough to secure a "pass" in that section. But the work of our colleague in the Technical Institute we soon learned was, we regret to say, less satisfactory, and before the first day we had convincing proof that in the matter of theoretical knowledge and also of practical knowledge, with regard to that most important of all points in a bee expert's qualifications—foul brood—the bee-keepers of Wilts were behind the time. Teaching there had been, but the teachers themselves, or some of them, were certainly at fault; and the fact that the

County Council of Wilts have taken the matter in hand is a hopeful sign that things will be changed ere long. With such a class of candidates as we had before us on those two days of September last nearly every man should have secured as good a "pass" in the scientific as in the practical section. There is no denying the fact that Wilts has up to now been, as we have said, behind the times in bee-keeping; some of the most intelligent of the candidates declaring to us that the "testing" they had undergone in the Institute should be applied only to a first-class examination. But herein lies the mistake; and we are very glad that the first examination—held directly under the management of a County Council—is that of Wilts, so that their own county has been the cause of an "awakening" as to what an expert's certificate means.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

CHEAP BEE GOODS.

PRACTICAL HINTS BY A SCOTCH BEE-KEEPER.

[3409.] Don't be tempted, my friends: "cheap and nasty" are here synonymous terms. It won't pay, and you just throw away good money for that which profiteth not. Nay, you secure to yourself that which causes vexation of spirit, which tries the temper and calls up images of words which do not tend to edification, and which are better left unsaid or unwritten. I believe in "a bargain" when I can get it. I never run after it, or go out of my way to obtain it, but when it is brought under my observation I go the length of holding out my hand (occasionally) to seize it ere it vanishes. This, in some unlucky moment, I once did in the case of sections advertised at a very low price. I leaped at the tempting fly and ordered a thousand case. They came promptly; indeed, they must have been despatched "by return." I fancy the firm feared a "wire" countermanding them, the order was executed with such expedition. They didn't, in fact, wait a goods train. They feared perhaps that the delay would be too great, so they generously forwarded "per passenger." You can guess that I showered down blessings on their heads for such extreme kindness when I state that this added to the price just 100 per cent. I was, however, so enthusiastic on the subject of their cheapness that even then I did not protest. When I opened the case I found to my regret, what I ought to have remembered earlier, that they had no saw cut for the reception of foundation. I determined to repair this fault by inserting one, and there and then cleared out several hundreds to try my skill and cunning on them. Such small things were so easily sawn, my boys declared; it would be just fun; and three of them stood by ready to add their willing aid. The first few operated on "flopped" so badly with the action of the saw that they snapped at the V cut. Parcels of six, ten, and twenty were tried with much the same result, almost all going to form kindling wood, and very few indeed being laid aside as passable. A board placed above and below with a saw scarf inserted in it beforehand obviated this difficulty to some extent. Still these boards and the pile of sections operated on would slip and slide out of position in spite of pressure brought to bear on them by the joint efforts of myself and the boys. So jagged cuts, slanting cuts, irregular cuts prevailed. Some went in too far, some were too short, some were about the right length. A percentage, shall I call it, passed muster. Racks were produced to be filled by willing hands. Alas! It was then found that the saw-cut would have done admirably for brood foundation, but was altogether unsuited for the thinner super sheets. Considerable engineering had to be resorted to in order that the foundation should be voted secure. When folding, section after section snapped in this piece of mechanical manipulation, my assistants giving the matter up in disgust at their non-success. Of those laid aside as safely fixed up, the future proved a large proportion showed faults. All through the wood, with lying in stock so long, presumably, had proved dry and brittle and no amount of damping apparently had any effect on it, for section after section was added to the pile of smashed, maimed, and mutilated lying all around. The *many* went there, the *few* went into the section racks. If my difficulties had ended there even, this article would never have been penned. But it did not! Sorrow and affliction are the lot of man, and they dogged my every movement. I neglected to say that the sections were the old discarded 1⅛-in. four-bee way. I used dividers in a few racks; in most of them I had none. The result in each case approached the proverbial six and half-a-dozen. When the harvesting season came, my agony was complete. Where no separators were used a grand object lesson could be obtained on the infinity of shape from any one of these racks. I am within the bounds of probity when I state that though a few (a *very few*) decent sections were obtained, *not one* was fit to be packed safely for a journey or pass muster as even second grade at home. Some took up the space of two sections weighing well on to 2 lb.; others were narrow distorted pieces of comb weighing as many ounces. Where separators were used few of them

weighed more than ½ lb. Few were decently finished. Almost every single one was more or less fixed to the separators. Pieces of brace-comb were abundant. The amount of running honey from bleeding sections was a perfect nuisance. Fortunately, I had used only four racks. I don't think, however, that I sold four sections out of the lot. The racks should have totalled 84 lb. and, perhaps, may have weighed fully half that amount, which did well enough for home use. But from a commercial point of view they were a distinct failure. So instead of a saving, my *cheap* bee goods proved a distinct loss. Given the first outlay, plus the carriage, I paid more than half what a first-class grade would have cost. Against this must be placed the *loss*, equal to something like what four instead of eighty-four sections would fetch when marketed. I have still this case of sections on hand containing more than half the thousand. They are for sale, cheap—very cheap! I have offered them to several of my bee friends, free gratis. But, after hearing my "horrible tale," like wise men they fight shy of them, and make some plausible excuse about "calling another day." The purchase took place several years ago, and if it made me a sadder it made me a wiser man, for I have never since invested in *cheap* bee goods —*and never will.*—F. E. J. S., *October* 20.

DEALING WITH FOUL BROOD.

A LADY EXPERT'S METHOD.

[3410.] I am looking with great anxiety for your reply to my last, which, by the way, I hope will not appear in B.B.J., as it was written in tearing haste and for the editorial eye only. I looked through the hive (No. 14) again the next day and found her majesty all right, though no eggs could be seen, and I may say as a further guide as to the nature of the contents of the mysterious cell sent for your inspection—that the tiny drop of *dark* brown fluid just under the capping and above the head of the nymph was the colour of *cafe noir*, while I should describe the brown substance in the usual "F. B." cells as *cafe au lait*. It also lacked the sticky, viscid, ropey qualities of the latter, and was somewhat of the substance of very unripe honey or thinner, which, while worrying over the subject in the midnight hours, has made me wonder and hope whether it might be some new variety of honey or honey dew tucked into the cell for the nourishment of the grub by some silly half-trained little probationer nurse who has evidently not yet taken out her diploma.

A few days ago I looked through a friend's two hives and found one very healthy (luckily I examined it *first*), the other terribly diseased, each comb *full* of "F. B.," so after a short "committee" the hive's destruction was promptly agreed to and accomplished as follows: At dusk we closed every cranny as well as we could, a much more difficult operation in a bar-frame hive than a skep, but I first removed the outer case, then tucked a cloth carefully over the ends of the frames and tied it round like a jam-jar with string; over that I tied down its carpet quilt, opened out to a big square; then blocked with another cloth (all afterwards burned) the whole length of entrance, except a tiny corner for the nozzle of my smoker. The latter I set *well* alight with some corduroy, and plentifully sprinkled the burning material with flowers of sulphur (three pennyworth would destroy all the bees in the district). When all was ready, and a *good* blast coming from the smoker, I blew in some vigorous puffs, holding some of the cloth round the nozzle at entrance to keep the hive as nearly hermetically sealed as we could. After nearly choking myself and one or two volunteer "helps" with the sulphur fumes (which somehow managed to escape from the wrong end of my bellows), we heard the ominous *hum*, loud and fierce for a few moments, then the still more ominous silence of—death! I still pumped a while, fearing that the work might not be quite complete. Then two of us carried the body box on its flooring, without disturbing it, into the big rectory kitchen. There I opened it, and found all dead but a few crawling stupefied bees, which were soon dealt with. The poor corpses from the floor board, and those I brushed from the frames, I wrapped in a winding-sheet of quilts and newspaper, and quickly cremated in the kitchen fire. The combs and frames were to be burned also, together with the body box; but the outer case of hive I thought might be saved if *well* scrubbed with carbolic and otherwise disinfected several times over. Please tell me if we pursued the right course all through.—[Quite right.—EDS].

I found in the same village a cottager with three skeps, one of which was infected with foul brood, and which he kindly promised should be promptly destroyed and the skep bodily burned. In the same way, too, the village schoolmaster valiantly promised to cremate his one ewe lamb, a swarm that had been given him in May and hived in a new skep. It was only slightly affected, but it seems hopeless to try and disinfect so porous and unmanageable a material as *straw*, and would probably only result in disappointment and much further sacrifice and greater loss. I therefore hope my counsel to use drastic measures was not unfair.

I must now confess to you that I was fortunate enough to pass the third-class experts' examination recently, and have perhaps been a little unduly elated in consequence at my newly acquired dignity. My husband, alas! is not at all elated; in fact he snubs me severely and quite declines to be the owner of a third-class wife! Under these painful circumstances, Messrs. Editors, there seems nothing for it but to *try* and go one step higher, though to *my* ear "second class" has a scarcely more pleasing sound. Will you

therefore kindly tell me what steps I ought next to take, what books are necessary for me to study, and when and where the second-class examination would take place in my case.—"QUEEN BEE," *Hon. Sec. W.D.B.K.A., Third-Class Expert B.B.K.A.* (I must have the pleasure of signing my full canonicals for once).

P.S. and private.—I saw some time since in your journal a letter from some one signing him or herself as "Queen Bee." Now, I don't want to be greedy, but as I used this name, I think, first, and as I may have something that might be of interest to your readers in the future, do you think the other "Queen Bee" would mind choosing another *nom de plume* to avoid confusion? You know it is the first law of apiculture that two queens cannot exist in one hive (your journal).

[We have made bold to insert the above postscript notwithstanding the fact of our correspondent having marked it "private"; because of feeling quite sure that after perusal our other "Queen Bee" will be only too pleased to gracefully retire from a contest which we bee-keepers know to end in "the survival of the fittest." Regarding the second-class examination, Mr. E. H. Young, Secretary B.B.K.A., 12, Hanover-square, will supply all the information required.—EDS.]

SELLING DARK HONEY

[3411.] I note in your issue a letter *re* selling dark honey, "blackened by honey-dew." Now, with regard to this subject and your correspondent's method of dealing with it, will you allow me to say a word in the BEE JOURNAL? Only a few minutes ago I was disgusted to see in the shop window of one of our largest retail grocers in this city (to whom I have again and again sent bee-men with first-class honey for sale) granulated honey in screw-cap jars what was evidently a sample of so-called honey, ticketed pure English honey, 9d. per jar! No intimation why such an absurdly low price was put upon it and nothing to warn the buyer that this is not a regular price or regular grade of British honey. What will be the result? As one who knows the trade well, I venture to say that the firm of grocers referred to will never again be willing to pay a fair price for British honey. Moreover, their customers will be disgusted with the article and not only pass that shop by if they want to purchase honey again, but will also be less eager to buy granulated honey at all in the future. It is hard lines, I know, for bee-keepers to have—as a result of the season's work—several hundredweights of black honey on their hands, but 2d. or 3d. or even 4d. lb. received for it from an agent, if the honey is to be retailed as British honey in the ordinary way, is to my mind a poor and altogether inadequate compensation for the great loss in reputation of our native product that will inevitably follow, and we shall all be the worse off for it. If this black honey can be sold to use for manufacturing purposes, well and good, or even if it can be sold plainly for just what it is there can be no cause for complaint, but to sell it without explanation at a low price spells disaster only to our industry. I can safely say that we bee-keepers in Liverpool and Birkenhead will not thank either our friends of Yorkshire or nearer home for spoiling our markets for us, and we think it hardly savours of the much-talked-of "brotherly" feeling that bee-keeping is supposed to engender in the fraternity, but rather makes us ejaculate "Save us from our friends."—A "LANCASHIRE AND CHESHIRE" BEE-KEEPER, *October* 14.

QUEENS MATING IN SEPTEMBER.

[3412.] I feel sure that readers of the B.B.J. and of your monthly the *Bee-Keepers' Record*, will unite with me in saying we owe much to the exceedingly interesting and profitable articles so frequently appearing from the pens of Messrs. Brice, Loveday, and Woodley (I place them in the alphabetical order of their surnames). Of course, there are others who are helpful, but those referred to are such well-known names. The articles appearing in the October *Record* from each of the above are very valuable. However, whilst I cannot write articles to the Press as do your able contributors mentioned, I can this year beat Mr. Loveday's record in the late mating of a queen. On August 18 last, I removed an old queen from hive (this I produced to our junior Editor, Mr. W. Broughton Carr, when he was at Exeter on the 19th, as I desired to know how to preserve her with some other bees), intending to introduce another; however, for reasons which need not be named, I did not do this at once, and as the weather kept very fine I allowed matters to take their chance, with the result that I found on September 3 a young queen hatched. On the 13th I found a quantity of eggs; and just to see things were going on all right I had a last look for the season at this hive on the 12th of this month and found a quantity of brood in all stages.—E. W., *Hemyock, Devon*.

STARTING BEE-KEEPING.

THE FIRST YEAR'S "DOINGS" OF A NOVICE.

[3413.] If the following account of a novice's doings during his first year's experience of bee-keeping possess sufficient of general interest to find room for itself in your pages please insert, otherwise let it go into the "W.P.B."

I began bee-keeping in 1897 by the purchase of two colonies and a swarm. Out of five swarms thrown off I lost the first, which came out on Whit Sunday, when my clerical duties prevented me from giving it proper attention; the next three I hived all right, but lost the fifth by bungling. I had about

120 lb. of surplus, after leaving about 25 lb. of honey in each hive for winter. I thus went into winter quarters with six stocks well supplied with natural stores.

The winter was very mild, but stores lasted well, no feeding being necessary until after the middle of April—one hive did not need it at all. It contained the only queen I had over a year old, and it has done very good work this summer, giving me three swarms (two of which I united), forty sections, and 18 lb. extracted honey, besides storing the brood-nest to repletion.

Hives being full of bees I supered on May 23, but the weather was changeable, and unfavourable on the whole until the end of June. Honey was stored in supers, however, though not as it would have been under more favourable conditions. During July and August honey came in fairly well, and only one of my stocks gathered any honey-dew. I secured altogether 390 lb. of good honey (extracted), and eighty-three sections; my best hive (10-frame) yielding 137 lb., having filled forty-six shallow frames. Thus my average take is 65 lb., and fourteen sections per hive, spring count. Each hive is well supplied with natural stores in addition, so that I have had neither trouble nor expense in feeding up.

Only two of my six hives swarmed, so I have now nine stocks prepared for wintering. I use double walled hives, and make my own. Since your article on "The W.B.C. Hive and How to Make it" appeared, I have made no other kind. For ease of manipulation, warmth in winter, coolness in summer, and general appearance, it is A1. I paint them very light buff, approximating very nearly to cream colour. Dark colours, in my opinion, are quite a mistake, as they absorb the sun's heat instead of throwing it off, much to the discomfort of the occupants. I use no winter packing between hive walls, and last winter I left all frames in brood-nest. I intend to do the same this year.

Just a word or two more as to financial matters. A carefully kept account shows that I have spent during two years £22 2s. 0d.; this includes cost of bees and hives at commencement, extractor, ripener, and other appliances, as well as all incidental expenses for wood, frames, foundation, B.B.J. and *Record* and other bee literature. I have received for honey, &c., £19 5s. 3d., and I have at least £4 worth of honey in stock, which will be disposed of during the next few months; so that by Christmas I shall have received back in cash every penny of outlay, and my stock of bees and appliances will be worth about £20.

As a member of our county B.K.A. I get a visit and advice from the expert each spring; but all the work in connection with the bees I do myself, and find it most enjoyable. I have received great assistance from the B.B.J. and the *Record*. One or other is a *sine qua non* to successful bee-keeping. In my opinion, if a beginner studies these and the "Guide Book" carefully, and then puts into practice what he has learned, with patience, pains, and pluck, he will find the hobby undoubtedly pleasurable, and, most likely, profitable as well. —W. H., *Brilley, Herefordshire.*

[We need hardly say the "W.P.B." was never made for contributions like the above, and we shall be pleased to hear more of our reverend correspondent's "doings" for insertion in our pages.—EDS.]

DOUBLE *V.* SINGLE-WALLED HIVES.

[3414.] Your correspondent, Mr. W. J. Farmer (3309, p. 262) quotes from "A Modern Bee Farm" the following paragraph:—

"However, double-packed walls to hives do not pay for the extra expense as compared with single walls; and, besides being more cumbersome, are a positive nuisance during the heat of summer, when shade only is required rather than additional heat. For, as a matter of fact, packed walls cannot be cool in summer, as the advocates of the same would have us believe. Why the more frequent swarming complained of with these? And are we not told that more warmth is given in winter? How much more, then, in *excess* in summer?"

This reasoning, my critic states, is unsound. Well, let us see who is right. "Double walls in winter," says our friend, "prevent the heat inside from escaping too freely, and help to maintain an equable temperature." Is he aware that outside the actual cluster of the winter nest there is no "heat," whether he has double walls or single? And does he overlook the fact that in either case there is always an opening to the outside which allows a free passage of cool air to pass between the apparently lifeless members forming the margin of the cluster and the walls of the hive?

"And in summer," says Mr. Farmer, referring to packed walls or those with dead air space between, "the outside walls provide *shade*, and prevent the natural warmth of the hive inside being increased by a glaring sun." For the same reason, therefore, our friend would retain his great winter coat during the late extreme heat, that the sun might not inconvenience him!

Surely he overlooks the fact that the summer temperature which enables his own single body to maintain its normal heat without exercise, while he at the same time desires the thinnest loose-fitting garment possible—most certainly causes a tenfold greater inconvenience to the thousands forming that living active furnace crowded between his four packed walls, which then retain the heat born of extraordinary exertion from within, and the sun's powerful rays from without.

As stated in the quotation from the work above

referred to, shade is preferable to packed walls in summer ; and for safe wintering there can be nothing better than a well stored, populous stock on old tough combs, so that the bees will pass safely through the changeful spring-time.

The references made to dwelling houses can have nothing in common with the hive and its inhabitants when we consider the vast difference in the respective conditions of life. For instance, a thin wall to a hive is of the greatest advantage at mid-winter, in that the sun, in its not too frequent visits, rapidly warms up the interior, enabling the bees to shift their position, or bring distant stores nearer the cluster. On the other hand, the hive with thick packed walls, or that with the dead air spaces, is, contrary to our friend's statement, like an ice-well ; the warmth of the sun's rays does not penetrate quickly enough, and the bees will frequently, during a long cold spell, sit still and die with food almost touching the cluster, though many hours of sunshine may occur during the term. There is, practically, no natural heat from the bees outside the winter cluster ; the heat and vitality are at the centre, and it is only by individuals occasionally changing from the extremities inwards that the life of the whole mass is maintained as one semi-hibernating body. It is by overlooking these facts that wrong conclusions are often arrived at.—S. Simmins.

QUEEN INTRODUCTION.

[3415.] I have introduced many queens by Simmins' direct introduction or fasting method without a single failure till lately, and I regard it as certain as any method can be. But I find that extra precaution is required in the autumn. It is not safe then to run the queen in the same day, but if done the third day success may be looked upon as certain, for I have successfully introduced three queens this week, allowing three days' interval. There is a further precaution which I have not seen mentioned, which I took with an imported Carniolan. It is well known that the smell from a box of imported bees is often perceptible to human nostrils, but what must it be to bees? I don't wonder they object to imported queens, but bees shut up in a box will not attack a queen. If, therefore, on arrival the queen is taken from her attendants and kept for a day or two she will lose the smell. My plan now is to take a clean travelling box with a fresh supply of candy, put some bees from her future hive in, and the queen with them—six or eight are enough—and keep all warm under a hive quilt.

In case novices may ask how to get some lively adult bees into a box, I will explain an easy method. Place the box, with a little pure honey at the bottom, on the alighting-board. Soon a few bees will go in, and when they are sucking, put a piece of glass over, take it indoors and slip the queen in. If done quickly the bees will be too busy to try and escape. The queen should be ready waiting under a wineglass. In my opinion the "fasting method" is the best for a novice, as he, if nervous, is very likely to lose his head if on releasing a queen he sees her attacked and badly balled.—Alpha, *Hull, October* 15.

MOVING BEES TO THE MOORS.

[3416.] In Meadow's heather hive the frames are a trifle below the sides, but as the crate of sections travels *in situ* it, by its weight, helps to keep the frames steady ; if there seemed any danger of the frames shaking, a piece of felt could be put between the "louvre" lift and the sections, when the action of screwing the nut each side would fix everything tight. My bees travelled quite safely both ways. Two hives have given me a gross weight, including comb, of 25 lb. and 30 lb. respectively in shallow frames.—Alpha.

A UNIQUE BEE-HIVE.

BEES BUILDING COMBS IN THE OPEN.

It is by no means an uncommon circumstance for a swarm to build several fair-sized combs by attaching them to the branch of a tree or other suitable spot whereon the bees

Photo by H. W. Brice. From *Country Life.*

may happen to have clustered after leaving their hive. It has remained, however, for our esteemed contributor, Mr. H. W. Brice, to secure a very fair photo of such a swarm, occupying the combs the bees have themselves

built, and attached to the limb of a tree, as seen in the illustration here shown. The spot selected by the bees is one of the stout limbs of a large sycamore tree in Lullingstone Park, Eynsford, Kent, the seat of the Rt. Hon. Sir William Hart-Dyke, M.P. The tree stands almost in front of Lullingstone Castle, and as the combs hang fully 20 ft. from the ground,

Entrance at the bottom to the right

[From *Country Life*.

the difficulty of obtaining a satisfactory photo may well be imagined; the task, however,

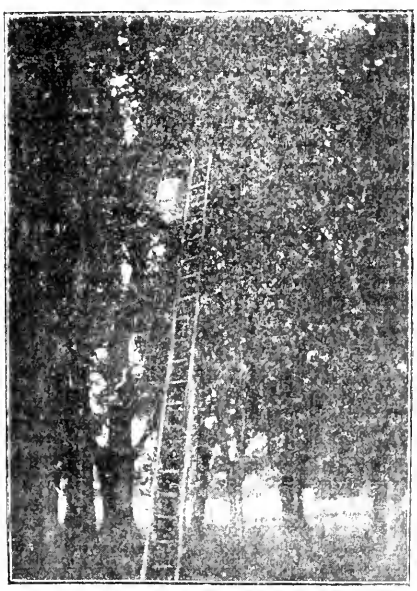


Photo by H. W. Brice.

was eventually accomplished by securing the camera to an adjoining branch of the tree. It will be seen that there are five combs, the largest of which measures 16 in. by 11 in., the bees—probably numbering from 20,000 to 25,000—covering all of them thickly except on the outsides. It is uncertain when the swarm issued, but most likely the bees came from the apiary in Lullingstone Garden some time in June, as the combs were first seen on July 10 last.

Feeling quite sure that the colony would perish during the winter if left unprotected, Mr. Brice determined to make an effort to preserve this unique beehive by boxing it in for protection from the weather, and in order to enable him to supply the poor bees with stores sufficient to last till the spring of '99, and so, after the expenditure of not a little labour and ingenuity, an American cheese-box was utilised, and a waterproof covering provided, as shown in sketch, for which, together with the previous illustration, we are indebted to the courtesy of our contemporary, *Country Life*, a high-class weekly paper which is devoting space just now to some beautifully illustrated articles on modern bee-keeping.

We have ourselves added a reproduction of a third photo (also by Mr. Brice) of the hive as it now stands, which gives some idea of its appearance from the ground below. Consequent on the absence of light among so many trees, a good photo was unobtainable, but it serves to place on record an interesting and unexpected addition to our "Homes of the Honey Bee," and, while also thanking Mr. Brice for photo, we shall be glad to know how the bees winter in their lofty dwelling.

A POINT IN QUEEN-REARING.

WILL BEES, WHEN LEFT TO THEMSELVES, REAR THE BEST QUEENS?

BY DR. C. C. MILLER.

In reply to a questioner, I favoured the idea that, left to themselves, bees might rear as good queens as when they were restricted to eggs or larvæ of a certain age. Referring to this, Hon. R. L. Taylor says in *Review*:—

"He argues (*A.B.J.*, 295) that in a colony made queenless, with eggs and larvæ of all ages present, it looks rather reasonable that the bees will select what will make the best queens if it is left entirely to them. It may look reasonable that they should, but they

don't ; at least, they don't altogether ; and the trouble is that, when they err, as they generally do, I suppose, from their eagerness to get a queen as soon as possible, by selecting one or more larvæ for the purpose that are too old to produce the best queens, the queens from such hatch first, and so the later and better ones are destroyed. The remedy is to remove the larvæ, in four or five days, from all but three or four of the most satisfactory cells."

So important is it to have the best queens possible, that the matter should be very seriously considered before following a plan that, in Mr. Taylor's judgment, would bring such bad results.

One might suppose that, if the bees have intelligence enough to select an older larva because it would give them an earlier queen, their intelligence might carry them a step farther, and make them willing to wait for a better queen. But it isn't always safe to trust the bees to do what might seem best to reasoning creatures. In some cases man's reason comes in to direct the bees. Mr. Taylor says when the matter is left to the choice of the bees "they don't" select what will make the best queens. In their hurry they select larvæ too old. Scientists tell us that the food the worker larva gets for the first three days is the same as the royal larva gets throughout its entire existence, and that a larva three days from the egg is as good as the best to produce a queen. So the difference between a worker and a queen is made in the last two or three days of feeding before it is sealed up. But although the difference is made in that two or three days, it makes more than that length of time in the development, for the worker is five or six days longer in coming to maturity than the queen.

Now, suppose a queen is taken away from a colony, there being present eggs and brood in all stages. One set of bees say, "Here's a larva three days old ; we'll rear a queen from that." Another set says, "Here's a larva two or three days older, just ready to be sealed over ; let us rear a queen from this, and we shall have a queen two or three days sooner." Now, this latter larva, if it were continued as a worker, would not emerge from its cell until twenty-one days from the laying of the egg ; and, changing from its original destination so late in life, it will be only an abortive sort of queen, taking nearly as long to develop as a worker ; so it will turn out that the larva three days old will come out of its cell sooner than its older sister. In general, it may be said that any larva more than three days old in a worker-cell has had a change in its food unfitting it for a perfect queen, and lengthening the time of its maturing so much that any gain in the way of age will be more than counterbalanced by the longer time it remains in the cell after being sealed up. Considered in that light, is it not easy to see that it is not possible for any queen to emerge from its cell earlier than one from a larva three days old ?

Keep in mind that the oldest larva that is unsealed in a worker-cell is only two or three days older than a three-day larva that will produce a perfect queen, and that, after the first three days of its existence as a larva, every day that it grows older before it is chosen for a queen makes more than a day's difference in the time its remains sealed up.

Let us look at the matter in a little different way. How long does it take from the laying of the egg to the emerging of the queen, under favourable conditions, in a full colony ? Forty years ago seventeen to eighteen days was considered the right answer. On page 199 of the *American Bee Journal*, vol. i., 1861, no less an authority than the Baron of Berlepsch gives, as the result of very careful observation, that in one case the queen emerged in eighteen days, and in a second case in seventeen days. He then remarks :—"These experiments show that the opinion generally entertained that the queens emerge between the seventeenth and eighteenth day after the eggs are laid is correct." But Berlepsch used a *small* forced swarm or nucleus, and it wil hardly do to take that as a basis for what would happen in a full colony. At any rate, the time has been shortened since then, and most of the text-books now give sixteen days. Cowan gives fifteen ; and as he is a careful observer, and, withal, properly conservative, it is not likely he would so far depart from the traditions of the fathers without being very sure of his ground. So it is safe to say that fifteen days is correct.

Another question : "When a queen is taken from a strong colony, the bees being left to their own devices as to raising a queen, how long is it from the removal of the queen to the emerging of the first young queen from her cell ?" Perhaps something like twelve days is given, and I do not remember ever to have seen any record of the emerging of the young queen any sooner than the tenth day after the removal of the old queen. A somewhat large experience of my own confirms this view.

Now, suppose a queen emerges ten days after the colony is unqueened. How old was that queen, or, rather, that larva, when the bees began to treat it as a thing of royalty ? Ten days taken from its entire inter-cell life of fifteen days leaves five days as its age from the laying of the egg, or two days of age as a larva. Allowing that the bees did not discover their queenlessness immediately, there is still leeway enough to assure the selection of the larva before it was older than three days. When the young queen emerges eleven or twelve days after unqueening, then a still younger larva must have been chosen. On this point Berlepsch says, on the page I have already quoted from, "I will only add, in passing, that the bees do not, as is commonly stated in the books, usually select a larva

three days old, but in most cases a younger one."

I know it is a quite commonly accepted belief that bees left to themselves select larvæ too old for the best queens; but it is high time to lay such beliefs aside. The truth is, they don't make such mischoice; and if they did, such old larvæ would emerge as queens later than their younger sisters. A larva chosen at the time of weaning, at three days old, will emerge a perfect queen at an earlier date than any other larva either older or younger.

So there is no need of any remedy such as Mr. Taylor proposes, "to remove the larvæ, in four or five days, from all but three or four of the most satisfactory cells." Even if such remedy were necessary, how many are there who can tell which are the most satisfactory cells?

In the hands of experts I believe queens as good as the best can be raised by confining the bees to eggs or larvæ of a certain age, but they will average no better queens than will be reared by the bees when they have brood of all ages from which to select. In the hands of the common honey-producer, the best queens will be reared by allowing the bees their own way, and then when the cells have been sealed in a strong colony, letting the nucleus or colony in which the queen is to be kept till laying have several cells from which to select. I know that I have reared hundreds of good queens in that way, and there is less chance for miscarriage thereby than in any of the other ways that may be advisable for queen-rearing specialists. — *Gleanings (American).*

[My own experience of several years ago, when I was doing the queen-rearing here—and the subsequent experience of our Mr. Wardell, who now has charge of that same work—would rather lead me to lean toward Mr. Taylor's position; namely, that when a colony is made queenless of eggs and larvæ of all ages, they do not, as a rule, "select what will make the best queens." I have sometimes thought that, when they find themselves suddenly deprived of their mother, they are in such haste to supply the deficiency that they start with anything they can get; but, on the other hand, when they are about to supersede a queen there is no hurry; neither is there need of any haste during the swarming season, for they have in either case plenty of time, not only to do good selecting, but to do good work. Our recent experience shows that, in order to get good queens under any circumstances, a moderate honey-flow or moderate feeding is an important requisite. — Ed. *Gleanings*]

[We have thought it advisable to quote Mr. Root's footnote to the above article in order to have his views on the subject dealt with. We shall also invite our esteemed contributor, Mr. H. W. Brice, to give his opinion.—Eds]

METEOROLOGICAL

Observations taken at Duddington, Stamford, Northants, for the Week ending Oct. 15, 1898.

1898.	Bar. in.	Tem. 9am deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in.
Oct. 9....	30·00	47·9	61	35	26	47·6	·03
,, 10 ...	30·04	50·9	60	48	12	53·8	—
,, 11....	30·01	47·0	57	43	14	49·8	—
,, 12....	29·96	47·9	58	40	18	48·7	—
,, 13....	29·90	47·4	59	37	22	47·7	—
,, 14....	29·72	49·8	56	41	15	48·3	·04
,, 15....	29·28	48·9	52	44	8	47·9	·02
Means	29·84	48·5	57·6	41·0	16·6	49·1	*·09

* Total, ·09.

Mean vapour tension, 0.281 in.; mean relative humidity, 83 per cent.; mean temp. of the dew point, 43.0. The week's rainfall, viz., ·09 in., =2,036·07 gallons, or 9·09 tons to the acre, or 7·2 oz. to the square foot. For the week ending October 8, the mean temperature, viz., 54·3 (not 54·5, as sent in error), was +2·5, and the rainfall, viz., ·07 in., =·65 in. The rainfall, January 2 to October 8, viz., 12·67 in., is −6·72 in.

Fred Coventry.

THE MONTH'S WEATHER REPORT.

Results of Meteorological Observations Taken at Duddington, Stamford, during September, 1898.

Barometer.

Highest, 30·41, on the 4th.
Lowest, 29·67, on the 30th.
Range, 0·74.
Average height, 30·05.

Thermometers.

Highest Max. Shade Temp., 90 deg., on the 8th.
Lowest Max. Shade Temp., 57 deg., on the 24th.
Highest Min. Shade Temp., 64 deg., on the 8th.
Lowest Min. Shade Temp., 33 deg., on the 27th and 29th.
Range, 57 deg
Greatest Daily Range, 38 deg., on the 17th.
Least Daily Range, 7 deg., on the 18th.
Highest Shade Temp. at 9 a.m., 74·5 deg., on the 8th.
Least Shade Temp. at 9 a.m., 46·4 deg., on the 29th.
Highest Mean Daily Temp., 76·4 deg., on the 8th.
Lowest Mean Daily Temp, 46·0 deg, on the 24th.
Mean of Highest Daily Readings, 71·3 deg.
Mean of Lowest Daily Readings, 48·3 deg.
Mean of Daily Range of Temp., 23·0 deg.
Mean Temp. for the Month, 59·8 deg.
Mean of Dry Bulb Readings, 60·2 deg.
Mean of Wet Bulb Readings, 56·6 deg.
Mean Vapour Tension, 0·427 inch.
Mean Relative Humidity, 79 per cent.
Mean Temp. of the Dew Point, 53·5 deg.

Rainfall.

Number of Days on which ·01 in. or more fell, 2.

Greatest Fall in Twenty-four Hours, 0·35 in., on the 29th.

Total Fall in the Month, 0·36 in.

Total Fall January 1 to September 30, 12·65 in. FRED. COVENTRY.

THE DAIRY SHOW.

THE AWARDS.

We have just time before going to press to print the list of awards at the above show, which opened at the Agricultural Hall, London, on Tuesday the 18th. Full report will appear next week.

Mr. W. Broughton Carr and The Rev. R. Errington were the appointed judges, and made the following awards :—

Twelve 1-*lb. Jars Extracted Light Honey* (41 entries).—1st, J. Edwards, Callington, Cornwall ; 2nd, H. F. Beale, Andover, Hants. ; 3rd, H. W. Seymour, Henley-on-Thames ; 4th, H. Pears, Mere, Lincoln ; 5th, Mrs. H. H. Woosnam, Bickington, Newton Abbot ; v.h.c. (Reserve No.), H. Pears, Mere, Lincoln ; v.h.c., S. Cartwright, Shawbury, Shrewsbury, and J. Cragg, Garstang, Lancs. ; h.c., Mrs. Longhurst, Longfield, Kent ; H. W. Seymour ; and H. Wood, Paradise, Lichfield, Staffs. ; commended, J. Sopp, Wallingford, Berks ; John H. Howard, Holme, Peterboro' ; J. Johnson & Son, Soham, Cambs. ; C. C. Tudway, Wells, Som. ; C. Whiting, Hundon, Clare ; and R. Brown, Somersham, Hunts.

Twelve 1-*lb. Jars Dark Honey, Other than Heather* (22 entries).—1st, G. Kirby, Bristol ; 2nd, E. C. R. White, Romsey ; 3rd, J. H. Howard ; 4th, H. W. Seymour ; 5th, H. W. Seymour ; v.h.c. and r., F. Chapman, Wells, Som. ; h.c., Mrs. H. H. Woosnam and Jno. Berry, Llanrwst, N.W.

Twelve 1-*lb. Jars Heather Honey* (12 entries).—1st, Thos. Richards, Church Greasley ; 2nd, The Pickering Bee Farm, Pickering, Yorks ; 3rd, Jno. Berry ; v.h.c. and r., W. Sproston, Great Haywood, Staffs. ; v.h.c., Thos. Walker, Esthwaite, North Lancs. ; h.c., W. Dixon, Beckett-street, Leeds ; c., M. Smith, Thornhill, Dumfriesshire.

Twelve 1-*lb. Sections* (25 entries).—1st, W. Woodley, Beedon, Newbury ; 2nd, J. Trebble, South Molton ; 3rd, F. Chapman ; 4th, J. H. Howard ; v.h.c. and r., F. Chapman ; c. Mrs. Longhurst and H. W. Seymour.

Twelve 1-*lb. Sections Heather Honey* (7 entries).—1st, M. Smith, Thornhill, Dumfriesshire ; 2nd, Thos. Walker ; v.h.c. and r., The Pickering Bee Farm ; h.c., E. Middlemas, Stamford, Alnwick.

Twelve 1-*lb. Jars Granulated Honey* (9 entries).—1st, C. Hart, North Luffenham, Stamford ; 2nd, Mrs. Longhurst ; 3rd, H. W. Seymour ; 4th, E. C. R. White ; v.h.c. and r., W. Woodley ; h.c., W. Dixon.

Honey Trophy (7 entries).—1st, Mrs. Longhurst ; 2nd, J. Moreton Lord, Northiam, Sussex ; 3rd, W. Woodley ; v.h.c. and r., H. W. Seymour ; h.c., R. Brown.

Postal Packages for Sections (9 entries).—1st, Wm. Woodley ; 2nd, Wm. Dixon ; v.h.c. and r., H. W. Seymour ; h.c., J. H. Howard, Holme ; R. Brown, and F. Chapman.

Beeswax (24 entries).—1st, Jno. Berry ; 2nd, Mrs. H. H. Woosnam ; 3rd, A. Canning, Boxford, Newbury ; v.h.c. and Reserve No., Mrs. Longhurst ; v.h.c., G. W. Kirby, Southville, Bristol ; c., J. D. Willcox, Bedminster, Bristol ; specially commended for neatness of putting up, J. H. Howard and R. Brown.

Interesting Exhibit connected with Bee-culture.—1st, H. W. Seymour ; 2nd, F. W. L. Sladen, Ripple Court, Dover ; 3rd, W. Dixon ; v.h.c. and Reserve No., P. Scattergood, Jun., Stapleford, Notts.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

J. EDWARDS.—*Awards at Shows.*—Had our correspondent borne in mind that in our issue of June 9 last (p. 221) it was stated that the Junior Editor of the B.B.J. had been appointed to act as judge at the Dairy Show, he would have realised the impropriety—to use no harsher term—of sending an addressed post-card and asking for a reply by post as to awards. Anyway—and for his future guidance—we would remind J. E. that judges who have any respect for their office don't know, and don't wish to know, the names of exhibitors until the awards have been made.

WM. MALCOLM (co. Durham).—As your queries have special reference to our monthly, the *Record*, we will reply to them in next issue of that paper.

A CORRESPONDENT, dating from Kent on the 18th inst., says :—"Have there been any clear proofs of foul brood being communicated to wasps? The other day a comb of brood badly affected with foul brood was carelessly exposed by a bee-keeper who ought to have known better, and the wasps were working it fine!—T." The point is an interesting one, but we are not aware of any case which can throw light on the subject. Perhaps some reader, better informed, will will give us the benefit of his knowledge for publication.

Editorial, Notices, &c.

Obituary.

In the wreck of the *Mohegan*, near the Lizard, Cornwall, Helena Mary, aged twenty-seven, eldest daughter, and Herbert Francis, aged twenty-four, second son of Thomas William and Fanny M. Cowan, of Hampstead. "Not lost, but gone before."

The above announcement, copied from the ordinary first column of the *Standard* of the 19th inst., was written by our senior editor himself, and is inserted here because of some regrettable errors in the newspaper accounts regarding Mr. Cowan's connection with the disaster, which have, at least, caused misleading confusion, and given some pain to both himself and his friends. The latest instance of this—giving force to my words—occurs in the *Standard* of the 22nd, wherein it is stated that "the bodies of Mr. and Mrs. Cowan have been recovered." Having said this much, it devolves upon me to perform a sorrowful and somewhat delicate duty to readers as follows:—

On Saturday last I saw Mr. and Mrs. Cowan at Euston, when they left by train to join the Cunard liner *Etruria*, bound for New York, the travellers being *en route* for Loomis, California. In conversation prior to the train leaving, the question naturally arose as to what should be said to readers of the BEE JOURNAL about the sad bereavement which had befallen the family. I was anxious myself regarding this, knowing Mr. Cowan's deeply-rooted objection to publicity for himself in print. But the matter could not be ignored, and so I thought it best to put the question by asking: "What can I say in Thursday's BEE JOURNAL about yourself after all that has happened?" I half feared the reply would be, "Nothing," but after a moment or two he answered, "Well, say what you like, but not too much."

This I will try and do, but in doing it have decided, so to speak, to leave the editorial chair and the editorial "we," and address our readers as personal friends, who, like myself, are sad enough at the pathetic break in a happy family by the disaster, but anxious to know a little more on the subject than people who are *not* bee-keepers. The simple facts, then, as they occurred regarding our senior editor's son and daughter on board the ill-fated steamer *Mohegan* are as follows:—

Mr. and Mrs. Cowan had arranged to pay a lengthened visit—accompanied by their only two daughters and second son—to America, where their eldest son owns a fruit farm, in which his father is much interested, at Loomis, California. The voyagers thus included all the members of Mr. Cowan's family except the youngest son, who is a pupil at the engineering works of the Great Northern Railway, Doncaster. Probably all would have travelled from Liverpool in the *Etruria*, but the two young people who were passengers on the *Mohegan*, being fond of the sea, chose to take the longer voyage from London and meet their parents at Chicago, Mr. Cowan himself having arranged to pay a promised visit to some American and Canadian bee-keepers on his route to that city.

On Thursday, the 13th inst., he saw his children depart on board the *Mohegan* from the Tilbury Dock in high spirits and full of happy anticipation of their next meeting at Chicago. It was his intention to join Mrs. Cowan at Doncaster on the following Saturday and spend the intervening few days there with their youngest son referred to above, the latter being the only member of the family thus left in England. But how true is it that "Man proposes but God disposes." Saturday brought news of the loss of the *Mohegan* off the coast of Cornwall, and the day was spent in anxious suspense by all who had relatives or friends on board. At 9.30 p.m. I received at my home a "wire" to say that Mr. Cowan and family had gone from Paddington to the scene of the wreck, and on Monday our worst fears were confirmed. I, of course, at once wrote to Mr. Cowan, but a note from himself crossed mine, in which I learned that the worst had happened, but that he had recovered the bodies of his children, not bruised, as so many were, but placid, as if sleeping peacefully, and he was thankful. I pass over what immediately followed, except to say that they were buried on the 19th inst., at the little village church of Budock, close to the scene of the disaster, the family returning to town the same day.

I saw Mr. and Mrs. Cowan at Hampstead on Thursday and found them full of gratitude for the many letters expressing sympathy with them in their bereavement. Not a few have reached this office conveying similar sentiments. One, inserted on page 428, will probably suffice as expressive of the feelings of our readers, and knowing how greatly Mr. Cowan regards the good wishes of bee-keepers, I ask them to accept, on his behalf, this acknowledgment of their kindness. In conclusion, and as Mr. and Mrs. Cowan, with their only remaining daughter, are now on the Atlantic on their way to California, where they proceed direct from New York, I hope to be pardoned for quoting a few words from a note to myself, written by Mr. Cowan on board the *Etruria*, after leaving Liverpool, and thus conclude.

The extract reads thus :—"I can hardly realise that so much has happened since last Saturday, and that everything has been so ordered as not to prevent our joining Alec. as soon as possible. When we think of how others are suffering who have not found their friends, or have found them mutilated, how thankful we are that ours were spared all suffering, and that we were able to recover their precious remains so soon. Now we are on the sea, but 'in the hollow of His Hand,' and trust in Him who doeth all things well."

The above words are more characteristic than any I could write of one for whom so many of us feel a love and esteem seldom given to a single individual in this world.

W. Broughton Carr.

THE DAIRY SHOW.

The twenty-third annual exhibition of the British Dairy Farmers' Association was held in the Agricultural Hall, London, on October 18 to 21, and we have to report it as a most successful meeting in every respect. In the Honey Section the entries numbered 164, the number in each class respectively being as given on page 420 last week.

In the list of awards thereon printed last week we, however, omitted to say that the silver medal, bronze medal, and certificate of the B.B.K.A. were awarded as follows :—Silver medal to Mrs. Longhurst for *Honey Trophy* (class 73) ; bronze medal, Mr. H. W. Seymour, for the *Most Interesting Exhibit connected with Bee-Culture* (class 76) ; and certificate, Mr. Wm. Woodley, for *Best Twelve 1-lb. Sections* (class 70).

Regarding the section of the show in which our readers are most interested, a very marked improvement was observable, and the Council of the Dairy Farmers' Association will, we are sure, welcome the change brought about by their timely foresight in seeking the co-operation of such willing honorary helpers as assisted in setting up the display of exhibits at the Agricultural Hall last week. It was to them a labour of love, and Messrs. R. C. Blundell, Ernest Walker, and the B.B.K. Association Apiarist Mr. Herrod will deserve a "V.H.C." for their efforts to make the display an attractive one.

Owing to urgent editorial duties on the day of the show, we were perforce compelled to leave directly the judging was over, it being "press day" for us, and subsequent events beyond our control prevented a second journey up to Islington, so that we cannot do justice to the many fine exhibits staged. We must, therefore, content ourselves and readers by saying that for what is generally admitted to be a poor honey season the bee-produce staged was "admirable and all sufficient" as showing what good British Honey is and what it can be made to look like in capable hands. The Honey trophies were as a whole beautiful to gaze upon, as were also the interesting exhibits and indeed all the classes.

It is suggestive of the growing interest in apiculture—and will be interesting to bee-keepers—to see a good lengthy notice of the honey and bee-produce department of the Dairy Show as appears in the *Times* of Friday last, the 21st inst.

Anyway, our friend Mr. H. W. Brice ought to feel himself specially honoured by the *Times*, which says of his exhibit :—

"Amongst the non-competitive exhibitists Mr. W. H. Brice's improved unicomb observatory hive, containing live bees, with sections above the brood-comb in three stages of development—started, drawn out, and filled. A thermometer within shows internal temperature. A hole on the top is for adapting an electric exhaust fan in hot weather, and a most ingeniously constructed feed hole compels the bees to extrude their tongues the full length for observation. The chief object is to supersede the old-fashioned cumbrous "three decker" —*i.e.*, three frame high. This improved observatory hive has shutters, and is extremely portable. It is intended to stand on one's window sill so as to have the bees and queen constantly under observation without curtailing the flight of the bees. There is a perfect contrivance at the base for removal of dead bees. The makers are Messrs. James Lee & Son, Holborn-place."

We have no doubt that a good deal of interesting matter concerning the Dairy Show will be found in our report of the Conversazione of the B.B.K A. at Jermyn-street on the 20th, which will appear in our next.

CARLUKE AND DISTRICT B.K.A.

The third annual show of the above Association was held on October 7 in Carluke Town Hall. The judges were:—Messrs. Robert Boa, Biggar; A. Pearson, Rutherglen; and George Henshilwood, Carluke. The entries showed an increase over last year. Those in the clover honey section were not numerous, owing to this being a bad clover season. Two observatory hives belonging to Mr. Thomas Gray were on view; and Mr. Boa, of Biggar, showed a number of appliances.

AWARDS.

Super of Clover Honey.—1st, James Lindsay.

Six 5 lb. to 8 lb. Jars Clover Honey.—1st, John Turner; 2nd, W. Brooks.

Six 5 lb. to 8 lb. Jars Heather Honey.—1st, W. Gilchrist; 2nd, Wm. Rennie; 3rd, John Turner.

OPEN CLASSES.

Six 1 lb. Sections Clover Honey.—1st, John Clark, Liberton; 2nd, Wm. Ormiston, Biggar; 3rd, John Smith, Stonehouse.

Six 1 lb. Sections Heather Honey.—1st, Mrs. W. Ormiston; 2nd and 3rd, Robt. Colthart, Abington.

Two 1 lb. Sections Flower Honey.—1st, Mrs. W. Ormiston; 2nd, Wm. Ormiston.

Two 1 lb. Sections Heather Honey.—1st, W. Ormiston. 2nd, Jas. Gracie; 3rd, Robt. Colthart.

Super of Clover Honey, 5 lb. to 8 lb.—1st, and 2nd, John Clark; 3rd, Henshilwood.

Six 1 lb. Jars Clover Honey.—1st, John Clark; 2nd, Robt. Colthart; 3rd, W. Ormiston.

Six 1 lb. Jars Heather Honey.—1st, Mrs. Wm. Ormiston; 2nd, James Gracie; 3rd, W. Ormiston.

Super of Heather Honey exceeding 8 lb.—1st, W. Ormiston; 2nd, John Clark; 3rd, James Rennie, Carluke.

Super of Heather Honey, 5 lb. to 8 lb.—1st, John Clark; 2nd and 3rd, James Gracie.

Four 2 lb. Jars Heather Honey.—1st, James Miller, Braidwood; 2nd, Robt. Colthart; 3rd, H. Barr, Carluke.

Two Shallow Frames of Comb Honey.—1st, John Clark; 2nd, Henshilwood; 3rd, John Park.

Beeswax.—1st, Joseph Dodds, Carluke; 2nd, W. Brooks; 3rd, W. Rennie.

Best and Most Attractive Display of Honey.—1st, Robt. Colthart; 2nd, Thos. Gray; 3rd, John Clark.

SPECIAL PRIZES.

Heather "Top," 10 lb. to 12 lb.—James Gracie.

Heather "Top," 6 lb. to 9 lb.—John Clark.

Two Pints (5 lb. each) Dripped Honey (one Clover and one Heather).—Robt. Colthart.—*Communicated.*

THE GEDLING DISASTER.

THE COMPENSATION FUND.

Referring to the above and the application of the "fund" to compensate the owner of horses for his loss, our readers will no doubt be as pleased as we are to see in print the following communication from the Hon. Secretary of the Notts B.K.A.:—

"GENTLEMEN,—A public meeting was held at the Black Head Hotel, Carlton (near Gedling), on Tuesday evening, the 18th inst., to receive subscriptions and to settle this matter connected with the compensation fund. Mr. W. J. A. Hill presided, and amongst those present were Mr. J. Armstrong (Hon. Secretary), Mr. Wheeler (Assistant-secretary), Mr. T. B. Osborne (Auditor), Mr. W. Vickers, C.C. (Hon. Treasurer), Messrs. Hayes, Pugh, and McKinnon (representing the Knotts B.K.A. and bee-keepers generally).

The amounts collected were—

Per Mr. Geo. Hayes (collected by B.B. JOURNAL and *Record*, and locally from bee-keepers	£23	19	3
Per Mr. Vickers, Carlton and district	26	1	6
Total.....	£50	0	9

After deducting expenses incurred, a sum of £48 was handed to Mr. Shepherd, the owner of the horses, who expressed his thanks and satisfaction for what had been done for him.

Mr. Wheeler proposed, That their thanks were due, and hereby accorded, to the Editor of the BEE JOURNAL and to all those bee-keepers who had assisted in raising the substantial sum brought by Mr. Hayes.—Carried.

I enclose the receipt for the amount we paid in, which please note and return to—Yours very truly, GEO. HAYES, *Hon. Secretary, Notts B.K.A.*, 48, *Mona-street, Beeston, October* 20, 1898.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[3417.] The long drought has been broken at last and a good deal of rain has fallen, though not enough to fill the ponds; but with the barometer at "rain" we may get a full supply. Farmers are all behind with their work, although the harvest was finished in

good time, because the dry weather made the "leys" so hard as to render ploughing impossible until the land got well soaked with rain. The planting of wheat will therefore be late this year. The drought has also killed a good portion of the spring-sown grasses, especially the white and alsike clovers, which will no doubt tend to curtail the honey crop of 1899. Some of the old leys may not have suffered so severely through the dry weather as the early sowings of 1898 did, and I hear that many fields are to be allowed to stand unploughed for another year. The larger breadth of trifolium which is now being planted will also help to fill the gap caused by the drought in other directions. The light root-crop, too, will probably induce some farmers to sow more vetches to stand the winter. This will also extend our bee forage another spring.

The Grocers' Exhibition.—The new departure in this annual exhibition was hardly what I hoped and wished for from a bee-keeper's point of view; but as a tentative effort the entries were, I think, very satisfactory, and the samples of honey were certainly good for the season of 1898. To my mind the drawback lay in the unsatisfactory way in which the exhibits, dumped down into glass cases, with no attempt at arrangement or in displaying the bee produce to the best advantage. Nothing seemed to be done by way of attracting the attention of the general public visiting the exhibition, or to induce those of the town grocers who deal in honey to copy the style of glazing and protecting their stock of honey from damp, dust, wasps, and flies. I spent the greater part of one day (4th inst.) in the hall, and the glass cases containing the honey were to me the centre of attraction, especially as I hoped to meet some one there who might be interested in "honey," if not in bees. But although I returned to that corner of the gallery several times during the day, I never saw any one taking the smallest interest in the contents of those cases. This being so it is clear that there are some items in this show which, in the interest of our craft, ought to be altered another year if the honey classes are to be continued at the Groceries—as I sincerely hope they will—and one of my ideas is that the prizes ought to be offered to grocers living in London, or in large provincial towns, who *sell* honey, and not to bee-keepers who are grocers, thus in a position already to dispose of their own produce. In my opinion the prizes should only be open to grocers who stock honey all the year round. This would start a rivalry amongst master grocers and tend to teach them the best style of putting up for the market. Again, I would not restrict the style or size of jar or bottle. Let those in the grocery trade decide that and show bee-men what their trade requirements are. We ourselves may, as bee-keepers, have very erroneous ideas of the style, shape, and size of package required by the grocery trade. Furthermore, districts may differ considerably regarding their requirements in this line; the tall jar may take the lead in one part and the "globe," or short barrel shaped, in another part of the same town. These things take time to discover; but when bee-men know the particular style and size that sells best, grocers can be supplied as well as in the sizes and shapes that our preconceived notions make us regard as the acme of perfection.—W. Woodley, *Beedon, Newbury.*

"BALLING" QUEENS.

[3418.] I found the enclosed little abomination in the only unhatched cell of my No. 13 hive three days ago, and again the brown colour of the dead and putrid grub brings uneasy fears. It is from a hive containing two united driven lots from *healthy* skeps, driven early in September, and the queen bred well while being fed up, so there are plenty of young bees. What ought one to do when disloyal subjects "ball" their queen under one's very eyes? This will happen sometimes at the close of the honey season, and when the bees as good as tell you to your face that you have no business to intrude on their privacy during this season of relaxed efforts after a busy summer. But I am serving my apprenticeship in bee-lore, and perhaps meddle just a wee bit too much while trying to learn the various habits and tricks of my little friends. Often the first inspection after re-queening may lead to this catastrophe.

Do the bees ever unball the queen, if you promptly close down the quilts and leave them alone, or does it mean certain death? I have sometimes tried worrying the bees off her with smoke, but they soon return to the attack—or I have lifted her assailants gently off her with my fingers and run her in at the other end of the hive between the tops of two end frames, but their methods of telegraphing or telephoning are at least *as* rapid as ours, for no sooner does she appear at the antipodes of the hive than again she is seized by a fresh squadron of belligerents. Is there something about her that shows she has been balled by some of her subjects and this makes the others think they must do likewise, or is it the same little set of "policemen" that rush to the extremities of the hive to be ready wherever she may reappear? Would they be likely to receive her again all right if you removed her altogether, and then ran her in between the frames at dusk, turning up a corner of the quilts (my usual method of introduction)? Please give me a little kindly advice in the matter, as I am rather at a loss. Is it safe to introduce a queen, balled in one hive, into another and queenless hive, or is there some tell-tale mark about the process that would make *them* also think her worthy of death?—Queen Bee, *Dorset, October* 20.

[Reply to above next week.—Eds.]

(*Correspondence continued on page* 426.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Our picture this week carries us so far north as Sutherlandshire, N.B., where Mr. Macbeth, formerly a firm believer in the straw-skep system of the late Mr. Pettigrew, has evidently now adopted the frame-hive in his apiary. And a good show they make; all the better for being entirely home-made. The various types of hive seen clearly prove the immense value of a standard frame, because, no matter what form or shape the hive, the frames will all be interchangeable, and thus workable in honey-getting on modern principles. Our friend gives so good an account of his bee experience that we need add nothing further to it. He says:—

MR JOHN MACBETH'S APIARY, DORNOCH, SUTHERLANDSHIRE.

"In response to your invitation to readers I beg to send a photograph of my apiary, with a short history of my experience as a bee-keeper. First as to the hives, they can be seen plainly, and though not observable in the picture, each one has its own name painted upon it. Some of the names are in Gaelic, as *Caich* (warriors), *Gathaich* (stingers), *Gniomhach* (industrious), &c. The legs of the hives are set upon bottles, placed in the ground up to their necks; this prevents earwigs from gaining access into the hives. The figures seen on the walk behind the hives are those of my two sons, while I am myself standing near the door of the bee-house, a little place 11 ft. by 6 ft. I do all my bee-work in this house, which, being fitted with three tiers of shelves, accommodates about a dozen stocks of bees at present. The bees of the last-named hives pass in and out through entrances made in the walls of the house. The back of each hive being fitted with a glass window they form objects of great interest to visitors, of whom I have not a few, as Dornoch is a favourite summer resort. I keep about twenty good working stocks in frame hives, and from these manage to get a very good crop of honey. There is an abundance of heather within half a mile of my apiary, so that I do not need to move them out. This being also a great golfing centre, I have no difficulty in selling my honey to advantage.

"I commenced bee-keeping about sixteen years ago with straw skeps. At that time Mr. Pettigrew's 'Handy Book of Bees' was my guide, and I have followed its teachings steadily ever since then, aided by your valuable paper the *Record*, to which I have been a constant subscriber for the past eleven years, and which I find of great benefit to me. At the present time, however, I have not a single skep. Most of my hives seen were made by myself in the winter evenings. After trying the 'Wells

system'—and I must say it has been very successful with me—I have enlarged upon it, and now one of my hives, which I have named 'The MacBeth,' contains four queens working under the same roof.

"There is splendid bee pasture here about, and my honey harvest is usually very good. I hope these few notes of my experience will be of some interest to my brother bee-keepers."

CORRESPONDENCE.

(*Continued from page* 424.)

POINTS IN QUEEN-REARING.

REPLY TO DR. MILLER.

[3419.] In response to your request at the foot of Dr. C. C. Miller's article from *Gleanings* (page 417, B.B.J.), I have carefully perused the worthy doctor's remarks, and the conclusion I arrive at is that our good friend has, to use an Americanism, "got on the fence," and expresses his views in the article referred to for one of two reasons. First, either to raise a discussion on the point; or, second (which I can barely conceive)—to use his own familiar expression—because "he does not know." Regarding his hypothetical case as to "gain in the way of age," &c., being more than counterbalanced, &c., it is unarguable for the simple reason that it extends beyond the margin of facts.

I have, as is well known, devoted many years to the queen-rearing branch of bee-keeping, and have proved beyond doubt that if the bees are left to work their own sweet will in a case of deprivation of their queen, the successor will—saving accidents—be a queen of inferior quality. Under the normal circumstances, bees invariably take (*a*) some hours (often days) to realise their loss and the disorganisation subsequent thereon. In most cases the bees wait two to three days before commencing to rear a new queen. They also (*b*) raise the first batch of queen-cells round larvæ comprising grubs mainly *over* three days old. Having got the first batch launched, they take matters far more rationally, and (*c*) start a second lot of cells (sometimes only one) round larvæ always much *under* three days old. This second batch of cells always produces finer and better queens than those under the head of (*b*), the reasons for this being easily verified by observation. Besides, it will be found that, whilst the larvæ under (*b*) are sparingly fed (except under swarming conditions, when an entirely different set of circumstances exist), those raised under the head (*c*) will be abundantly fed. This makes all the difference, and leads us to inquire a little further into the matter. It is generally admitted that "royal jelly" is analagous to the food that is given to the young larvæ up to the weaning period. This may be so, and I take it that for this purpose it is so. Now "royal jelly" consists of perfectly digested honey and pollen, digested by very young nurse-bees, whose glands are at this period more fully developed than they will be later. When the queen is, without notice, removed from the hive, these nurse bees are no doubt fully occupied, and are only producing sufficient of this special food to supply the hungry mouths of the thousands of young larvæ under three days old. What happens is that the whole colony is thus thrown into a state of disorganisation, and the ordinary work is stayed for days, simply because of the mother bee being suddenly lost to the colony. A new queen then becomes a desideratum, and must be raised at once. In doing this the bees commence to build queen cells round larvæ that will produce what they want the quickest, viz., round grubs which have passed the weaning stage, and although a few cells may be started round younger grubs the supply of immediate special food is short.

I have seen hundreds of embryo queens raised under those conditions without a particle of surplus food in their cells for days beyond what has been absorbed into their little carcases as soon as given, and it is impossible, in my opinion, to get the best results either in queen-rearing or, in fact, in anything by haphazard methods. At swarming time, as I have said, the case is entirely different; the season is right, the bees are ready, and *they never raise queens then* from larvæ past the weaning period, but usually from the larvæ just hatched from eggs placed or laid in embryo queen cells previously prepared, and the food then is given right from the beginning in abundance.

In both the case of supersedure better queens by far result than from the "let alone plan," and when the doctor says "it is high time to lay such beliefs aside," I feel sure he is not doing his long experience justice. With regard to his argument as to the younger larva at three days old emerging "a perfect queen at an earlier date than any other larva either older or younger," it ranks in the same category as the case above mentioned. Queens hatch out in normal colonies on the seventeenth day from the laying of the egg. Mr. Cowan agrees in this. Dr. Miller asks, "Who can tell which are the most satisfactory cells?" The reply is that all can tell if a little trouble is taken to examine them a day before they are sealed. If bee-keepers do not know, it a duty owing to themselves to learn the difference. We can always advance backwards, and the teaching in Dr. Miller's letter is in that direction, but our aim should be to advance forward. I would like to give the Doctor a hypothetical case. Supposing it were possible for a human to come into this world with a wooden leg, is it reasonable that any amount of special food, natural or otherwise, would alter the character of that limb. This is quite as feasible as that a larva with immature ovaries and with other

organs proportionately developed to fit its allotted sphere (as is the case at and after the weaning period) will produce a perfect queen. —HENRY W. BRICE, *Dale Park, Upper Norwood.*

DOUBLE *V.* SINGLE-WALLED HIVES.

[3420.] Referring to the correspondence on this interesting, if somewhat well-worn topic, I cannot believe that Mr. Simmins' arguments (3414, p. 415), will be found convincing. If he claims advantage from the penetration of the sun's rays through his thin walls in winter —of which more anon—he must be prepared to find special means to counteract the increased heating effect in summer. Extra shading is not often convenient, but if adopted can be as easily applied to double-walled hives as to single. In hot climates human beings ensconce themselves in thick-roofed and thick-walled buildings, and find in artificial ventilation their remedy against oppressive heat; and it would seem advisable to use similar means —such as raising the hive body off the floor-board—in order to keep our bees comfortable in extra hot summers and repress excessive swarming. Thin walls cannot help us in this. The reference to personal clothing is hardly apposite, and its force is weakened when we remember that in the tropics Europeans not only use thick headgear to protect their heads but wear padded coats to protect their backs and shoulders.

If Mr. Simmins has any scientific proof or authority for his repeated statement that "outside the actual cluster of the winter nest there is no heat, whether he has double walls or single," he would do well to produce it. Otherwise it will not readily be believed that, in a moderate-sized hive, a fair cluster of bees will sustain a temperature of from 60 deg. to 70 deg. without raising the internal temperature above that existing outside the hive, say, 10 deg. below zero. Cheshire, a very good authority, though much opposed to single-walled hives, gives the cluster heat as "not less than 65 deg., even in the most severe weather." Langstroth says it "maintains a summer temperature, even when in the open air it is many degrees below zero." It is true that the hive-door allows a free passage of cool air to pass into the hive, and equally true that heated air is being constantly expelled from it, as is proved by the condensation in cold weather as it makes its exit. For, as Huber says, "the high temperature which bees keep up in their hive without the slightest effort, is the result of their respiration, as is the case with the natural heat of all animals." And in his experiment on hive ventilation he found that, on the suffocation of the bees in a closed glass hive, its temperature "suddenly" fell through 8 deg. R. (= 63 deg. F.) to that outside. The fact is, that in the event of the temperature of the hive falling so low that the bees cannot maintain their cluster heat by ordinary quiet respiration, they seek to remedy matters by quicker breathing, assisted by a rapid motion of the wings, so that the warm air must be thus distributed round the hive.

Mr. Simmins sets great store on the effect of the sun's rays in winter penetrating the thin walls of his hive; but just as rapidly as its rays may warm the hive, as rapidly on their ceasing to act will the chilled thin walls re-act upon the interior temperature, condensing the heated air into damp, and calling on the bees for renewed exertions to cope with the sudden change.

To speak of a double-walled hive, especially when the interspace is packed as an ice-well, is not so far from the mark as may at first sight appear. Call it even a refrigerator; but remember that it is a well-padded one, *with no ice inside*, and that instead of the ice there is a cluster of heat-producing bees, so that the hive is more like a kind of Norwegian oven, enabling the bees to keep up exactly that heat their well-being requires, with a minimum of exertion, and the smallest possible consumption of stores. Apart from the question of economy, this small consumption is a most important matter, seeing that the less undigested residue the bees have to get rid of in winter the better; so that should the cold weather be prolonged and an increased consumption be thereby necessitated, the health of the colony may well be prejudiced. In fact, so entirely opposed is my opinion on this question of sun-heat to that of Mr. Simmins, that if colonies of bees in very thin single-walled hives were given into my care to-morrow, I should prefer to place them under a north wall, as giving them the best chance of wintering quietly and coming out in a fair condition in the spring.

It is a mistake to dogmatise, because in our temperate climate bees will as a rule pass through the winter well enough in any kind of hive, provided that it be water-tight and the internal conditions satisfactory. Most of my hives are double-walled, but I do not say that they are the best. They have their faults, and are very cumbersome to deal with, especially without an assistant.

If I were to begin again, all my hives should have strong removable casings, which would shade the brood-body in summer, while in the winter the inter-space would be well packed with shavings, bracken, cork-dust, or any non-conducting material available.—SOUTH DEVON ENTHUSIAST.

P.S.—Having consulted "Bevan on the Honey-Bee," I find therein that Mr. Hunter (a well-known bee-keeper and writer on bees) at 10 o'clock in the morning in the middle of July, when the quicksilver in the thermometer in the open air ranged at 54 deg., found that on plunging it into a bee-hive it rose in less than five minutes to 82 deg. On December 30

when the temperature of the air was 35 deg., that in the hive was 73 deg.

According to Bevan, Huber says that "in a prosperous hive the thermometer in winter commonly stands from 86 deg. to 88 deg., and in summer between 95 deg. and 97 deg.

THE LOSS OF THE *MOHEGAN*.

[3421.] I have no doubt that those bee-keepers who were at the B.B.K.A. meeting and conversazione last Thursday would find some suitable opportunity of conveying to Mr. Cowan an expression of their deep united sympathy with him in his sad bereavement. And may I, on behalf of the thousands of other British bee-keepers to whom Mr. Cowan's name is a very familiar one, and who can never be present on such occasions as last Thursday's, venture to ask you to assure him that we all feel very deeply for him in his trouble?

What makes me think that it is not out of place to do so is this:—To us who know his books so well, Mr. Cowan has become not only a master but a friend as well; we get from him not instruction merely, but instruction given in a spirit so happy and kindly, so modest and reverent, that we all feel a real personal attachment and affection for him. And on this account I trust he will let us give expression to our sympathy with him.

I am quite sure that I write what many and many feel in this. My name (which I enclose in accordance with rule) is of no importance, and I remain, faithfully yours, A YORKSHIRE PARSON AND BEE-KEEPER, *October* 22.

SELLING DARK HONEY.

[3422.] How often it happens that when trying to do a good turn for some you incur the displeasure of others; and so it has happened in this case, as any one with an unprejudiced mind can plainly see written between the lines, when perusing the letter (3411 p. 414) which appeared in your last issue, signed a "Lancashire and Cheshire" Bee-keeper. Your correspondent evidently judges the actions of others by the bushel measure he daily uses in his business. In this particular instance, however, the measure in question is as unsuitable for gauging my actions over the sale of Mr. Norris's honey as it would be were your correspondent endeavouring to use it to gauge the weight of the honey he evidently would like to produce and to sell to the firm of grocers referred to in his letters and to whom he has (according to his own admission) "again and again sent bee-men with first class honey for sale."

I would, however, suggest to your correspondent that before penning communications to your JOURNAL like the one referred to it would have been more creditable had he either personally or through some official of the L. and C.B.K.A. have visited the firm of retail grocers in question and explained the injury that was likely to accrue to bee-keepers in general by the action which he so deprecates. Had this been done he could have rendered the firm in question good service by explaining the faults of the sample they were exhibiting. It is more than probable that the grocers in question are acting in good faith, and may have purchased this honey from some bee-man who has represented it to them as being what they are selling it for, *i.e.*, pure English honey.

It is not my business to publish the name of the firm to whom I sold the honey for Mr. Norris, or the purpose for which the honey is to be used, beyond stating the fact that it is required for manufacturing purposes alone, and that it will be used in place of the light-coloured Californian honey hitherto used for the purpose, and bought at the same price, *i.e.*, fourpence per lb. I have acted in what I consider the best interests of British bee-keepers by assisting them to dispose of their stocks of blackened honey in the manner and for the purpose mentioned. In conclusion, let me add that my business of a nurseryman and seedsman brings me in daily contact with many of our leading merchants of Liverpool, who are purchasers of imported honey in large quantities for manufacturing purposes; one firm alone importing, they inform me, direct from California in twenty-ton lots; whereas their annual purchases of the English product amounts to 10 to 12 cwt. only per annum. This has led me to use my influence with these firms to give a preference to English honey when and wherever possible, and many have expressed their willingness to do so with a view to giving every encouragement to our British bee-keepers.—JAMES SMITH, *Palm Grove Nursery, Birkenhead, Cheshire.*

DEALING WITH FOUL BROOD.

[3423.] I am just afraid my hives are affected with foul brood, as a large number of the cells—capped and uncapped—contain dead larvæ. These, when taken out with a pin (they come out freely), represent a dark brown mass, and in most cases when crushed it is more or less of a brownish watery appearance. When left in the cells the matter dries somewhat, and the bees have the power of taking the dead larvæ out, large numbers being seen on bottom board and others on alighting board. I am sorry I have not a sample to send you. On noticing something was wrong I had the whole of my twelve hives (eighteen frames to each) gutted out, and starved the bees for a couple of days, after which I gave full sheets of comb foundation. Having read Dr. Lortet's paper on the foul brood bacteria in your journal of 29th ult. and 6th inst. on curing by naphthol beta, I shall try the remedy

and trust it will do the needful in my case.—J. H., *Lanarkshire, October* 17.

[We are sorry you could not send a small sample of comb for inspection, mainly because of the lateness of the season, and the consequent difficulty in getting bees to take sufficient food to enable them to build out foundation into combs and store them with food at end of October. We hope you will succeed, but fear it is too late to start. Any way, give the food warm, as fast as the bees will take it.—EDS.]

BEE NOTES.

EAST RIDING OF YORKS.

[3424.] The season—judging by skeps I have driven—has not been bad here on the whole; but I fear stocks do not promise well for next year. Many are honey-clogged and, in consequence, there are not so many bees as could be wished. Bees have gathered very late; supers taken off in September and returned to the bees to clean up have had more honey deposited in the combs. I found some to-day in a neighbouring apiary where this had been done. No honey dew has been gathered in the neighbourhood I live in. Spring-sown clover has blossomed this autumn. Bees still carrying pollen.—ALPHA.

Queries and Replies.

[2117.] *Foul Brood Remedies.*—In the advertisement in BRITISH BEE JOURNAL *re* foul-brood remedies, it is not stated how many hives one shilling's worth would be sufficient for. Will you please give me the desired information? I am sorry to say foul brood is very bad about here, and people do not seem to take any notice of it.—W. G. W.

REPLY.—Our correspondent does not state whether the "remedy" he refers to is for medicating bee-food or for putting in the hive as a preventive of infection. Full particulars are given with the respective packets, but we may say that a shilling's worth of naphthol beta will medicate about 145 lb. of sugar and a shilling box of naphthol containing sufficient to properly dose about fifty hives for winter.

[2118.] *Balled Queens and Re-Queening.*—In August last, on examining one of my hives, I found all the brood, with the exception of two or three cells, was hatched out, and no signs of breeding going on, nor could I find the queen. The following day I examined again, and found the bees "balling" the queen. I released her, but they seized her again, and handled her very roughly, she being more dead than alive. I treated the stock as queenless, and in the course of a week, having some straw skeps to drive, selected a queen from one of them, and gave to the queenless stock; and, to induce breeding at once, put on a bottle of their honey. Breeding commenced, but I found drones still remaining; however I packed up the hive for the winter. To my astonishment, on going out through the garden on Sunday last, I find drones still flying from the hive, and pollen in large quantities going in. I examined the hive to-day (Monday), and found the first comb one slab of honey, the next three about two-thirds full of honey, and the remainder full of brood from eggs to capped brood. I should consider it a strong, healthy lot—eight bars well covered with bees. I did not consider it prudent to go any further, but have no doubt some of the other combs contained brood. How to account for the drones I cannot tell, for I have previous to this invariably found stocks of bees to be queenless where drones were allowed so late in the season. Will you kindly give me your opinion?—AMATEUR, *Penryn, Cornwall, October* 24.

REPLY.—If the brood in hive is "worker" we cannot understand the retention of the drones. You will see when you stop feeding whether they are turned out or no.

[2119.] *The "W.B.C." Hive and How to Make It.*—I should be glad if you will inform me whether the article on "The 'W.B.C.' Hive and How to Make It" appeared in the B.B.J. or the *Record*, and to have the numbers of same or date?—C. BAKER, *Derby, October* 24.

REPLY.—The article referred to has appeared in the B.B.J. of June 24 and July 1 last year. It also appeared in *Record*, but the number of the latter are out of print. A few copies of B.J. still may be had post free for $2\frac{1}{2}$ in stamps.

METEOROLOGICAL

OBSERVATIONS TAKEN AT DUDDINGTON, STAMFORD, NORTHANTS, FOR THE WEEK ENDING OCT. 22, 1898.

1898.	Bar. in.	Tem. 9 am deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in.
Oct. 16....	29·10	48·1	52	46	6	48·9	·54
,, 17....	28·95	54·2	63	46	17	54·2	·26
,, 18....	28·91	54·1	56	53	3	54·5	·35
,, 19....	29·23	50·0	54	48	6	50·9	·32
,, 20....	29·67	49·5	54	48	6	50·9	·36
,, 21....	29·54	54·0	60	49	11	54·3	·01
,, 22....	29·86	60·2	65	54	11	59·3	—
Means	29·32	52·9	57·7	49·1	8·6	53·3	1·84*

* Total, 1·84.

Mean vapour tension, 0·354 in.; mean relative humidity, 82 per cent.; mean temp. of the dew point, 49·2. The rainfall, viz., 1·84 in., =41,625·92 gallons, or 185·84 tons to the acre, or 9·2 lb. to the square foot. For the week ending October 15, the mean temperature, viz., 49°·1, was −0°·4, and the rainfall, viz., ·09 in., −·61 in. The rainfall, October 2 to October 15, viz., ·16 in., is −1·26 in., and that January 2 to October 15, −7.33 in. Wild strawberries ripe on the 23rd. Mean temp. for September, viz., 59°·8, +3°·4.

FRED COVENTRY.

VENTILATING HIVES.

There seems to be no small degree of agitation lately among the wise-heads in our bee-keeping fraternity, respecting ventilation of the bee-hive. Some advocate the use of front wedge-blocks; some, front and rear spaces; others, blocks under the four corners of the hive; and still others, raising the cover.

Now, all of these methods of ventilation, excepting the last mentioned, are applicable only to hives having loose bottoms, and every one of them, under certain circumstances, are subject to serious objections, which, it seems to me, will be suggested to any experienced bee-keeper.

My hives are what are known as the two-story Falconer chaff, having tight bottoms—have tried others, but like this better than any other I have seen for wintering out-of-doors, and for manipulation as I have learned to do.

My colonies are very strong—made so by careful building up as they need room, to two stories of twenty frames, as early as possible after the season opens; and when they show signs of "hanging out," I simply remove one or two frames from the brood-chamber, according to circumstances, and re-space the others, which settles the difficulty with my bees. I also remove the super of frames from the upper story of such as I wish to run for comb honey, and substitute section-cases. The wider spaces in the brood-chamber give freer access to the upper story, and I find my bees occupy it very fully as soon as the change is made; and when I raise the enamel cloth they poke their little heads up through the bee-space and say, "Thank you."

It must be quite a difficult task for a bee to make its way up through a mass of bees to the surplus chamber, when spaced close as we usually put the frames when brood-rearing is started in the spring.

But it may be objected to my practice that the bees will thicken the comb in the brood-chamber so as to reduce the spacing. I think not, if there is a prolific queen to occupy the frames with brood; and especially so if the bees are working in the surplus chamber; at least this is my experience. My hives have an entrance of $\frac{1}{2} \times 8$ in., and by practising as above described I have no lounging outside by the strongest colonies I can create. If bees need so much ventilation, why do they carefully stop up with propolis every crack and crevice they possibly can? It is more room in which to move about that mine seem to want, and I think my method of ventilation subject to less objection than any other with which I am acquainted.

Of course any manipulation of a colony of bees must be done at the proper time and in the proper manner to secure the desired results; which means that the successful bee-keeper is one who has his eyes wide open all the time, and sees and appreciates what is going on in his apiary from day to day, and from what he sees, and from what he reads, is prepared to take advantage of circumstances.

The more I study my bees (and that is pretty nearly all the time), watching their various operations, their changing conditions, caused by changes of weather, varying seasons, as well as difference in methods of handling them, the more I am convinced that bee-keeping is not only the most complex but the most interesting of all rural pursuits.

Will some one of our scientific students of the fraternity tell us why the bees always before leaving the hive for their journey wipe their eyes with their "forepaws?" You may ask, Do they? Yes, they invariably do so. It is done as they approach the exit where the light strikes the eye, or as soon as they reach the alighting-board.—WM. M. WHITNEY, in *American Bee Journal.*

Bee Show to Come.

November 9 and 10, at the Drill Hall, Basingstoke.—In connection with the Basingstoke and District Fanciers' Show. Two classes for Honey, with special prize. Entries close November 2. Schedules of W. B. Cannon, hon. sec., 5, London.street, Basingstoke.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

W. R. B. (Elsworthy). — *Lantern Slides on Bee-Keeping.*—The B.B.K.A. or its affiliated association have several sets of slides which may be hired for lecturing purposes for a small sum per night. Apply to the Secretary, Mr. Edwin H. Young, 12, Hanover-square, London, W.

J. EDWARDS. — *Awards at Shows.* — We entirely acquit our correspondent of any wilful intention to do wrong by sending his name and the number of his exhibit to one whose name had been publicly announced in print as a judge of the show referred to. But the very fact of his having secured first prize for his exhibit should convince him that our contention as stated on page 420 is a right one.

J. J. C. (Swindon).—*Laying out Apiary and Planting for Bees.*—Any dry sheltered spot will be suitable as to planting for bees. Apart from very early flowers, there is no real necessity for this save for personal amusement and gratification.

E. G. (Weston-super-Mare).—*Braula Coeca.*—The insect sent is the blind louse known as *Braula Coeca.* The fact of there being no brood in the hive at this period need not cause any alarm at this time.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held on Thursday, the 20th inst., at 17, King William-street, Strand, W.C. Mr. E. D. Till occupied the chair, and there were also present the Hon. and Rev. Henry Bligh, Rev. W. E. Burkitt, Messrs. H. W. Brice, W. Bean, J. M. Hooker, J. H. New, A. G. Pugh, P. Scattergood, and the Secretary. Letters apologising for non-attendance were received from the Chairman (Mr. T. W. Cowan), Messrs. R. T. Andrews, G. Hayes, T. I. Weston, and C. N. White. Mr. Cowan's letter conveyed the sad intelligence of the loss of Mr. F. H. Cowan and Miss Cowan (son and daughter), who were on board the s.s. *Mohegan* wrecked off the coast of Falmouth. A resolution expressing deep sympathy with Mr. and Mrs. Cowan and family, and "praying that God would support them in their hour of sorrow," was unanimously passed, Mr. Till kindly undertaking to convey the message to Mr. Cowan on behalf of the Council.

The minutes of the previous meeting were read and confirmed.

Three new members were formally elected, viz. :—Miss Elizabeth Black, Red House, Ufford, Woodbridge, Suffolk; Rev. E. A. Causton, The Rectory, Shoeburyness; and Miss A. A. Pratt, East Lulworth, Wareham, Dorset.

The Finance Committee reported that they had examined the receipts and payments for the month ending September 30, and recommended a number of payments, which were approved.

Mr. Carr presented his report upon examinations for third-class certificates at Swanley College on September 10, and at Bradford-on-Avon on September 16 and 17. As a result it was resolved to grant certificates to the following candidates :—C. R. Boswell, Harry Brice, jun., W. Burden, Rev. C. F. Burgess, A. Cameron, H. Edwards, H. Frankham, Miss Frazer, C. J. G. Gilbert, P. Gladwin, and J. W. Spencer.

The Secretary reported that the candidates had already intimated their wish to enter for the second-class examination on November 18 and 19.

CONVERSAZIONE.

The last quarterly Conversazione of the present year was held on Thursday, the 20th inst., at 4 o'clock, at 105, Jermyn-street, the usual attendance being largely reinforced by visitors from the Dairy Show.

The Chairman, Mr. Till, said his first duty was a very sad one. Many present were probably strangers, but they were heartily welcome nevertheless. All looked forward to meeting Mr. Cowan, who had promised to attend prior to his leaving for America. A terrible calamity had, however, taken place which rendered such visit impossible. He (Mr. Till) recalled to memory when the late Sir Stafford Northcote's career was tragically cut short, the memorable words uttered by Lord Salisbury. "*What shadows we are, what shadows we pursue!*" This thought came home to all at times, and never more forcibly than at the present moment. On Tuesday week he (Mr. Till) had the pleasure of spending a pleasant day in Kent, in the company of Mr. Cowan, when they visited Messrs. Cannell's nurseries and also the fruit-preserving factory at Swanley, in which industries Mr. Cowan was interested. He heard what his friend's plans were, and with what pleasure he looked forward to meeting his eldest son, who owns a fruit farm in California; another son and daughter were going out by an earlier vessel. But they all knew that on the following Friday the *Mohegan* ran on the coast of Cornwall with dreadful results. The drowned bodies of Mr. Cowan's son and daughter were recovered, and the funeral took place at Budock. The members present at the Council meeting had just sent Mr. Cowan a message of love and sympathy, and had passed a vote expressive of their extreme sorrow. He (Mr. Till) invited those present to do the same, and felt sure that it would be the unanimous wish of all to tender their condolence to Mr. and Mrs. Cowan and their surviving children under the heavy trial they were suddenly called upon to bear. He had never known a more united and happy family than Mr. Cowan's. He was satisfied that every one who knew the Chairman would have but one thought on the present occasion, and that was of extreme sorrow for him.

Mr. Jonas said that the sentiments expressed by Mr. Till were echoed by the entire meeting, and that the motion required no seconder.

The resolution was unanimously passed in silence.

The Chairman referred at considerable length to the proceedings at the Dairy Show, and said that through the assistance of Mr. Young, their Secretary, the B.B.K.A. had the advantage of co-operating with the Stewards of the Show; a marked improvement in the arrangements resulted.

In spite of bee-keepers having had this year the worst season in his experience, the display of honey, wax, confectionery, honey products, trophies, and appliances was one of the best he had ever seen, a decided advance on anything before. The exhibition demonstrated what might be done when the produce of a *good* year was forthcoming. Bee-keepers were indebted to Mr. Walker, Mr. Blundell, Mr. Herrod, and others who had come forward to assist in the arrangements, and he wished to compliment them on the way they had

done their work. All present were probably aware that Mrs. Longhurst had taken the first prize of the trophies; and, being a Kentish man, he (Mr. Till) was very glad that prize had come to his county.

The total number of entries was 163, which was a decided advance on the previous year; they were spread over twenty-four counties. Three entries came from Scotland, which was an improvement; it was only last year that Scotland came into competition. Four entries were from Wales and 1 from Ireland, the sister isle had never been represented before. The largest county forwarded the largest number of exhibits, which was satisfactory and appropriate. Yorkshire sent 17 entries and took 3 prizes. Strange to say, little Huntingdonshire came next with the same number of entries and 2 prizes; then Hants 15 entries with 3 prizes, Berks 13 entries with 4 prizes. Oxon had 12 entries and 4 prizes. Somerset had 12 entries and 2 prizes, Kent 11 entries and 3 prizes. That was not as good as he would have wished, but his county had had a very bad year. Lincs followed with 9 entries and 3 prizes, Staffordshire 7 entries and 1 prize, Sussex 7 entries and 1 prize, Devon 6 entries and 3 prizes, Lancashire 4 entries and 1 prize, Northumberland 4 entries, Shropshire 4 entries, Herts 3 entries, Cambs, Cumberland, Hereford, Middlesex, Notts, Suffolk, and Essex 2 entries each. That looked bad for Essex, which was reputed a splendid bee-keeping county. Cheshire was represented by 1 entry. Cornwall had 1 entry and 1 prize, thus securing the distinction of 100 per cent. of success; besides, it had taken the first prize for extracted honey. Wales took 2 prizes and Scotland 1.

[We are rather surprised to see that so good a bee county as Surrey was not represented at the "Dairy."—EDS.]

The unicomb observatory hive on the table, said the Chairman, was a great improvement on the old "three-decker"; provided with shutters, it closed up neatly for conveyance. Two of them had live bees in at the show. Shutters also kept the temperature even, and protected the glass; an ingenious arrangement got rid of dead bees; but what pleased him most was Mr. Brice's method of feeding in order to see the bees' tongues, which were extended to their fullest extent, like so many minute elephants extending their probosces. A thermometer inside recorded temperature, which was regulated by an electric fan. Swarming might, perhaps, be controlled this way. The Chairman recommended bee-keepers to study the question.

In wax they never had finer exhibits; the schedule was framed in order to make that product more saleable. Mr. Howard, Mr. Brown, and Mr. Seymour had carried out the idea by moulding wax in pennyworths. A splendid coloured wax from Wales had a strong odour of "heather." He could not help thinking there was much honey left in that wax. Bee-keepers had a great deal to learn about wax, and so had judges. Confectionery was exhibited by Mr. Dixon. The mead at the show, three years in bottle, was splendid. The effect of age could only be imparted by time. Mr. Weston's exhibit of mead, made with "sauterne" ferments, was a new feature and much to be commended. The trophies were excellent. More room would be desirable for trophy exhibits, but room at the show was very expensive. Unicomb hives, he thought, ought to be included in future schedules.

Mr. Scattergood said unicomb hives were common in Notts.

The Chairman recommended judges to taste all sections; or, at least, one of each exhibit. He then referred to the great destruction of bee-life in jam-factories, particularly at Swanley. Twenty skeps of driven bees were needed to strengthen the stocks in the B.B.K.A. apiary, owing to depletion through destruction of bees in the factory referred to. The slaughter of the bees was out of all proportion to the amount stolen. If possible, it would be well to test how much bees can thus carry away in a given time. Mr. Scattergood knew of similar cases in the Midlands.

A new departure in the county of Wilts, the Chairman said, was worthy of special remark. The Technical Education Committee of that county were fortunately progressive and disposed to encourage bee-keeping. Twenty-one County Council candidates entered; nineteen attended. All seemed to have shown great aptitude in manipulating bees, but considerable ignorance in the scientific section, especially with regard to foul brood. Eight obtained their certificates, and, no doubt, the rest got valuable experience. Our Association had since received from the Wilts County Council Technical Education Organiser an intimation that they may probably hold a series of classes in their county for instruction in bee-keeping this coming winter. This is very encouraging to us. The Kent B.K.A. (continued the Chairman) had at last induced the K.C.C. to give £15 for an autumn tour. That tour had been carried out and had given great satisfaction. He would quote an instance to show the advantage. A bee-keeper, who had left Dover, had a large number of hives put up to auction. The auctioneer employed our expert to report on their condition. A large percentage were found diseased, and thereupon the Kent and Sussex Local Secretary was told to buy the diseased hives and burn them! He, the Chairman, was pleased to say those hives would be destroyed and thus do no more mischief.

He invited opinions from all present on the Dairy Show or any other subject interesting to bee-keepers. Regrets had been expressed at the limited number of classes. Mr. Dixon was sorry judges did not pay more attention to honey cakes and confectionery. It was

remarked that Mr. Scattergood's and Mr. Sladen's exhibits were equally deserving of praise; but more money was needed if the classes were to be made as comprehensive as they ought to be.

Mr. Scattergood said he was too old a showman to carp at the action of the judges. No doubt they interpreted schedules honestly. The question of prize money did not enter into his mind, but he hoped another year there would be a separate class for exhibits not immediately connected with honey producing.

The Chairman said those gentlemen who helped to stage the exhibits spoke of the reckless way in which much honey was packed, and the difficulty of unpacking it. Next year some uniform method of packing should be insisted on. Sections should come in spring crates and not in loose hay and straw; bottles ought to be packed so as to be easily removed and replaced, and exhibits in different classes should never be in the same box.

Mr. Blundell, who had assisted in the unpacking and staging, confirmed the chairman's remarks. One case nailed down took ten minutes to open. It was full of hay, and contained four separate exhibits. Thus unpacking and staging took six times longer than necessary. In another case two sections were smashed to pieces. Then the greatest inconvenience comes when the exhibits have to be returned. He thought those who sent to the Show ought to remember that they were all working for the benefit of the bee-keeper, and therefore should be careful to give as little trouble as possible. If each exhibit were packed separately it would be to the advantage of all concerned.

Mr. Seymour contended that sections did not travel so well in a spring crate as when tied up in brown paper with hay and straw packing in a light box.

Several other speakers supported Mr. Seymour's objection to spring crates on the ground that the risk of damage was greater, and spring crates were heavier than light boxes. Others advocated the spring crate, among whom was Miss Leigh, who found them entirely satisfactory. A spring crate made to carry two dozen sections would travel fifty miles on the Great Western Railway for 8d., and was returned empty to her from her customers.

The Chairman said, whatever might be the opinion as to spring crates, the sense of the meeting was in favour of exhibitors paying much more attention to the question of packing.

In reply to a remark by the Chairman, an Oxfordshire bee-keeper stated that the defunct Oxon Association was to be resuscitated, and that a meeting would shortly be held with that object.

The Chairman invited opinions respecting wax and the method of preparing it. He had once tried to melt a large number of combs in the kitchen copper. That copper was still suffering from the effects of the melting process, according to feminine testimony (laughter).

Another said he had experience in melting wax, and had many combs to melt down owing to foul brood. He had used a gas stove, and a large tin in which to boil the combs. When the wax was melted it ran through a tube, the end of which was covered with flannel or cheese cloth. He said more easy sale could be obtained for two pennyworths of wax than for larger quantities. Finally, he poured the wax into egg-cups, which represented rather over 1 oz., and was sold for 2d.

The Chairman said that Mr. Howard cast his wax into rectangular strips.

Mr. Wood had tried the copper for boiling, and succeeded very well. His usual method was the old one of immersing the combs in a canvas bag, and skimming the wax off as it rose and placing it in cold water. The longer it was left the higher colour it became. In the wax class there was always a difficulty in knowing just what would satisfy the judges. It occurred to him that the end would be best attained by a good article made up in the most marketable form.

Mr. Hooker said much wax was lost by the combs being placed horizontally in the vessel. Combs should be hung on frames in the wax extractor and the wax run out. It was very important to keep the combs upright when the wax was running.

Mr. Ford had treated seven standard frames which were pollen-bound. He cut out the combs and chopped them as fine as coarse oatmeal, soaked all night in water, and passed then through a hair sieve so that the pollen remained with the water. From those seven frames, which had been in the hive five years, he secured 22 oz. of pure (?) wax.

Mr. Brice doubted whether all the pollen could be got rid of by washing. Six or seven sheets of foundation went to the pound, and a lot of wax would still remain in the cocoons; besides, no matter how the combs were boiled, there would still be a residue; it appeared to him strange that quite as much wax was produced at the finish as there was at the start. He had melted hundreds of combs in various ways, but never could obtain the results just named.

Mr. Seymour thought that wax and pollen were always in combination, in fact he had often noticed wax smelt strongly of pollen.

Mr. Ford maintained that he did secure 22 oz. of pure wax out of the seven combs, and would be glad for the satisfaction of everybody to try the experiment on another six old combs.

The Chairman said he did not doubt Mr. Ford's accuracy, but was it wax *only?*

Mr. Meadows believed tailors preferred wax in small pieces about 1 in. wide.

One present observed that bright-coloured wax with a good aroma generally took the prize, although he believed that pure wax had no aroma at all, and was as nearly as possible

white; another, that the bright yellow wax contained a good deal of pollen in it. Another feared whether bee-keepers or dealers in wax would not get into trouble if they stamped wax as being pure, when it had pollen in it; his belief was that there was very little wax without such admixture. Mr. Seymour suggested that the water in which wax was boiled made some difference as regarded the colour; water purified with lime giving wax a greenish tint, while soft water invested it with a much more natural colour. Mr. Brice stated that wax from sections, if boiled quickly became nearly white.

Mr. Hooker gave his experience as to treating fermenting honey when he was in America. He bought at a store a small quantity of honey; it was very thin, and had just commenced to ferment. His son, a chemist, employed in one of the sugar refineries, proposed to thicken it without spoiling the aroma by boiling the honey *in vacuo*. A vacuum was accordingly created, and as soon as perfect a gas stove was put underneath and the honey boiled. There was a certain amount of "distil" as pure as water from it, while the honey became thicker and had remained thick ever since. The ferment was got rid of without damaging the aroma, and the honey was of a beautiful quality. The boiling was, of course, at a much lower temperature *in vacuo* than in atmospheric air.

Mr. Spencer said he had a considerable amount of dark honey this year (a sample of which he produced). He had utilised it for various purposes in the house. He had brewed quantities of "Melpop," which he found was not merely a cooling drink for summer, but also satisfying in the winter. He had made mead, and what were called "honey gingerbread cakes." The gingerbread cakes produced at the meeting by Mr. Spencer were voted "A 1." This was well worth the attention of bee-keepers. His recipe for "Melpop" was as follows:—1 lb. to 1¼ lb. of honey, add three pieces of crushed ginger, and one lemon sliced. Pour thereon one gallon of boiling water. When lukewarm put in one tablespoonful of yeast on a piece of toast, and when the yeast has spread over the top, skim it off, bottle, and tie down.

The Chairman asked for the opinions of any present as to the result of bees working on rosemary. In Tunis and Algeria rosemary is said to produce fine honey, as good as from sainfoin. He wondered that rosemary was not more grown in this country. One present said that possibly the well-known superstition that rosemary only grew in gardens where the wife was master deterred men from cultivating it (laughter).

Mr. Reid said he grew rosemary, but had never noticed the bees on it. There were several species of rosemary.

Mr. Edwin Young had rosemary in *his* garden, but it was *planted by the previous tenant!*

Few seemed to have observed bees working on rosemary.

The Chairman remarked that it would be very satisfactory if new and good honey-producing plants could be introduced to notice, especially if suitable to grow on chalk banks.

Mr. Young asked the sense of the meeting as to doing away with the May conversazione, which took place at a time when bee-keepers were busy. He thought they might profitably hold three conversazioni during winter, October, January, and March.

The Chairman spoke of serious objection to changing the place of meeting in October to the Agricultural Hall. The arrangements at Jermyn-street were most satisfactory, and from his experience of meetings held in close proximity to a show ground it was not conducive to business and quiet discussion.

Some disappointment was expressed respecting the Grocers' Honey Exhibits.

Mr. Scattergood counselled patience. Too much must not be expected at first.

On the motion of Mr. Scattergood, seconded by Mr. Walker, it was unanimously agreed that in future there should be three conversazioni, to be held in the months of January, March, and October.

Mr. Seymour thought it out of place that our medals should go to men who had not *produced* the honey. Could they not have a "Grocers'" medal?

Mr. Meadows supported this.

The Chairman agreed there ought to be some distinction made.

One present spoke of bees dying in transit.

Mr. Pugh thought the perforations in the zinc became closed by placing it flat down on the surface; Mr. Spencer that a few good sized perforations were better than many small ones, which soon became choked.

Mr. Brice said that 4 lb. of bees were too many to send in a box of the size described. Bees become excited and disgorge honey, which clogs the perforated zinc.

The usual vote of thanks to the Chairman brought the proceedings to a close.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

CURING FOUL BROOD.

A SUGGESTION FOR TREATMENT BY AN ANTITOXIN.

[3425.] Since foul brood is such an important consideration to bee-keepers, and since it is also a disease due to a well-defined and specific micro-organism, I have been expecting to find some reference to its preven-

tion by scientific means analogous to the modern methods adopted in the prevention of such-like specific diseases in human beings.

The destruction of the disease when it already exists by means of antiseptics is admirable as far as it goes, and if this could be associated with the isolation of all infected bees all might be well, but since this is impossible the disease must continue to exist and devastate.

It is a well-ascertained fact that the mischief wrought in these specific diseases is caused by a product of the micro-organism called a "toxin," there is another product which is produced by the host on which the micro-organism lives (*i.e.*, the bee, in foul brood) which is called an "antitoxin," this is inert. If the host can produce sufficient antitoxin to neutralise the effects of the toxin it ultimately kills the micro-organism, and the disease is then cured; if, on the other hand, it cannot produce enough antitoxin, the micro-organism thrives and the host ultimately succumbs. This fact may account for strong and healthy stocks occasionally surviving, and recovering from foul brood, whilst weak and unhealthy ones are rapidly annihilated.

The thought occurs to me whether or not bees could be rendered immune or unsusceptible to the disease by subjecting them to an artificially-produced foul brood antitoxin, on the same lines as the Pasteur treatment for hydrophobia, and the antitoxin treatment for diphtheria in human beings. Bees appear to me to be particularly well suited to this method of treatment, as it would resolve itself into the rendering of the queen of each hive immune, a certain part of this immunity would be transmitted to her stock, drones included, and after some generations a race of immune bees might grow up.

Of course, this is highly optimistic and theoretical, yet what has been an accomplished fact in higher animals may possibly succeed in lower ones.

There are two great obstacles in the way of the adoption of this method of treatment. The first is getting the artificial production of the antitoxin, the second is its introduction into the economy of the bee in an effective form.

As regards the first difficulty, the assistance of an expert bacteriologist would be required, and this, unless any of our bee-keepers are expert bacteriologists and would do it gratuitously, would mean money, but considering the enormous losses bee-keepers sustain throughout the country on account of the foul-brood pest, a little money spent in experimenting in this direction may be well laid out, at any rate. I think the matter is worthy of the serious attention of the British Bee-Keepers' Association.

If an antitoxin for foul brood can be obtained, the difficulty of subjecting the queen bee to its influence may be easily overcome.

Vaccination for bees may afford food for ridicule to "conscientious objectors," but nevertheless it may have a profitable future before it.—J. H. S., *Wells, Somerset, Oct.* 28.

QUEENS MATING IN SEPTEMBER.

[3426.] "E.W." (3412, page 414) in B.J. of October 20, certainly has beaten me by getting his queen mated during the first week of September; but there, you know, was no competition. There were a number of drones in my hives up to the end of the first week of September, but I had no use for them, and it was only through an accident that I happened to get a young queen mated in the fourth week of August. Had I been raising queens they would have mated about the same date as those of "E.W.'s" did. My mention of this late mating of a queen in the *Record* was simply because my previous record for latest date of getting a young queen mated had thus been broken and beaten this year by fourteen days.

Undesirable Honey Plants.—From some shrubs used to form hedges bees gather honey most unpleasant to the taste—the privet, for instance. Has any reader had an opportunity of tasting the honey from the flowers of the snowberry shrub? There is a hedge—about 10 yards long and 7 ft. high—of this shrub a quarter of a mile from my apiary, and when this hedge was covered with the small pinky flowers of the snowberry in July last my bees visited it by hundreds at a time. The breadth of bloom being so limited, I did not secure a sample of the honey. At the time the bees were working on the snowberry, but I noticed that my surplus combs had numerous cells filled with honey of a pea green colour, and I concluded was from the snowberry.—Wm. Loveday, *Hatfield Heath, Essex, October* 24.

NOTES FROM THE WEST.

CARNIOLAN QUEEN FROM ABROAD.

[3427.] Seeing a letter in your issue of the 13th inst. (3405, p. 403) on Carniolan queens and their breeders, and also containing a reference to a note of mine complaining last season of the delay experienced in receiving same from M. Ambroyzic, I hasten to say my queen (No. 2) came early this year, and has turned out a splendid specimen of apis mellifica. She is at present heading a good colony, and I have fourteen young queens from her, all of which have turned out first-rate ones. Some of these I find mated purely; others to Italians, and the remainder to native drones. Of the lot, I like those best which are mated to Italian drones; they are gentle under manipulations and very active as workers.

Wintering Nuclei.—I notice that several of your correspondents have tried my method of wintering three and four frame nucleus lots in long hives with simply a "Wells" divider between them, and, judging from letters received, a fair share of success has resulted.

I am myself trying a dozen this winter in an out-apiary, all in one long hive, and have no doubt they will come out well in the spring, unless some unforeseen accident happens.

Foreign Queens and Foul Brood.—Are we quite sure this disease is not imported to this country very largely by foreign queens? I had two Italians early in the spring from a well-known and popular breeder, one of which I placed in each of my apiaries, every colony in the latter being at the time perfectly heathly. Later on, however, I found foul brood had developed in both hives containing these queens, but in no other. I at once adopted very strong remedies, with the result that one has been cured, while in the other the bees dwindled so much that I have at last killed the queen and burnt the combs. None of my other stocks, I am glad to say, show any signs of disease whatever.

Honey-dew and the Season.—There is very little honey in this district which is not largely mixed with honeydew, so much so, that a great portion of our surplus cannot be placed on the market as honey at all. Nevertheless, I find some people selling it wherever possible at good prices, merely explaining to their customers that it came from the hives, so must be all right.

Large Frames.—I have tried this year with considerable success the "Simmins" frame, 16 in. by 10 in. Do you consider it likely that this sized frame will take the place of our association standard frame? I certainly like them, and intend trying further another year, if possible. [Not at all "likely."—EDS.]

No Beeway Sections.—I have tried these this year, and don't like them at all, they have so many palpable disadvantages that no "article" is needed to "show them up." It is to my mind a pure matter of going backwards with these sections.—AMATEUR, *Totterdown, Bristol.*

POLLEN GATHERING IN OCTOBER.

[3428.] On October 17 I had the pleasure of assisting a brother bee-keeper in examining and packing away for the winter his modest apiary of a dozen hives. The day was dull and showery, with an average temperature of 56 deg. Before commencing I was rather surprised to see the bees unusually active, and at first glance was inclined to think they were busy upon a weaker colony, but upon closer examination I found that such was not the case, as the bees were bringing in, freely, good-sized pellets of pollen, of a pale lemon colour.

One hive, which I timed, averaged twelve pollen gatherers per minute, and, moreover, honey was coming in from some source or other.

I am rather at a loss to know from what source their supplies were obtained, as the only flowers in this district at present are sunflowers, jasmine, dandelion, and marigold, and of these a very limited quantity. I found the hives in splendid condition, plenty of stores, also of bees, and brood in all stages, from newly-laid eggs to sealed brood, and the bees full of vitality, as was evidenced by their labours. The hives in question belong to one of our most advanced bee-keepers in this district, viz, Mr. Samuel Statham.—J. G., *Dosthill, Tamworth.*

BUYING BEES.

A CASE FOR ARBITRATION.

[3429.] The following will illustrate my query which appeared in your columns a few weeks ago, asking if it were not possible in matters of bee disputes to submit the dispute in question to arbitration.

As one tale is good till another is told, it is only fair to Mr. Sutton to allow him to state his side of the question. If Mr. Sutton is agreeable, and our Junior Editor would undertake the service, I am quite willing that the respective sides of the question should be laid before you, and I will abide your decision. If you do not care to undertake this office, perhaps Mr. E. H. Young, the Sec. of the British Bee-keepers' Association, would act?

My side of the dispute is as follows:—Seeing an advertisement in your columns last May of Mr. W. T. Sutton, Burston, Diss, Norfolk, I wrote to him, and in reply he sent me a price list offering swarms of bees at 10s. each, free delivery, and with the clause, "Bees replaced free of charge if killed in transit." I accepted two swarms, and deposited £1 with your office.

The two lots duly arrived at Halstead, Kent, packed in wooden pails, each of the latter having a small hole about 1 in. to 1½ in. diameter in bottom, and a similar one in the side, the mouth of pail being covered with hop sacking. As the station master refused to allow me to open packages at station, he let me take them away *without signing for them*, and I opened them at the apiary in the presence of a bee-keeper. We found one lot (weighing 6½ lb., according to Mr. Sutton) completely suffocated; the other lot (said by Mr. Sutton to weigh 2½ lb.) was so small that we did not consider there could have been more than 1½ lb. bees. I hived the latter lot and left the suffocated ones in the pail. I then at once advised the station master at Halstead of damage; I also requested Mr. W. Herrod, the bee expert, to report on both lots, and this he did, he reporting that the suffocation was due to bad packing, and that the lot hived had disappeared, probably due to being queenless or having a virgin queen.

As I refused, under the circumstances, to pay for either lot, Mr. Sutton, rightly or wrongly, served me with a summons from the Eye County Court, for the smaller lot. As the amount in question was small and legal expenses would have been heavy I paid under protest. But Mr. Sutton has since been claiming from the railway company for the suffocated

lot, and having failed to obtain satisfaction from them he threatens me with another summons unless I pay. Now, judging from the expert's report, there is no case against the railway company. I would also like to point out that under the guarantee given at time of purchase I am entitled to another lot of 6½ lb. to replace the damaged one. Surely in a case like this it is not necessary to go to such extreme measures as Mr. Sutton thinks he is entitled to do. Of course, his version may put quite a different complexion on the case, and he is entitled to every consideration. I only claim a like privilege, and am prepared to prove everything I have stated above.

I have forwarded a copy of this letter to Mr. Sutton.—H. Jno. B. Moreland, *London, October* 27, 1898.

[We shall be glad to hear Mr. Sutton's version of the above, and hope for his own sake, if for no other, that he will favour us with a reply for publication.—Eds.]

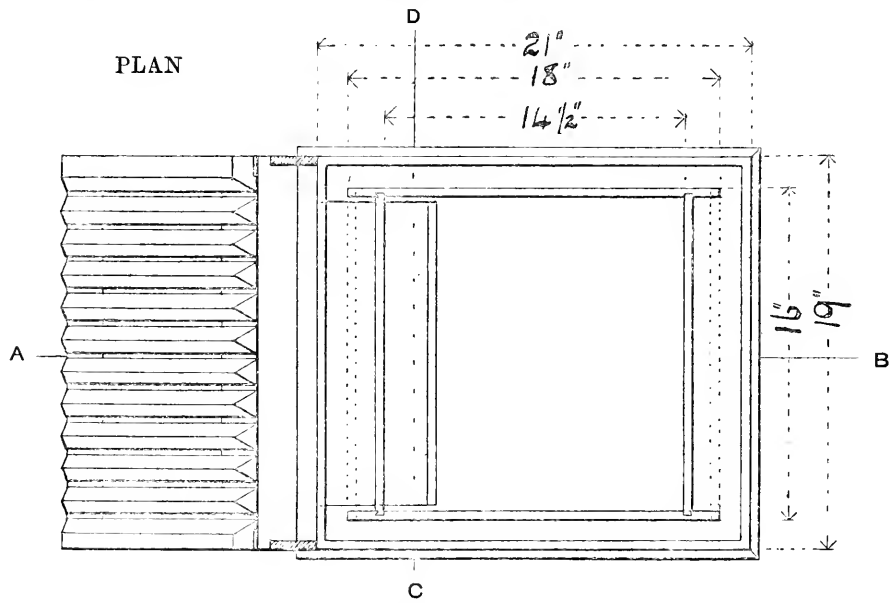
THE "W. B. C." HIVE.

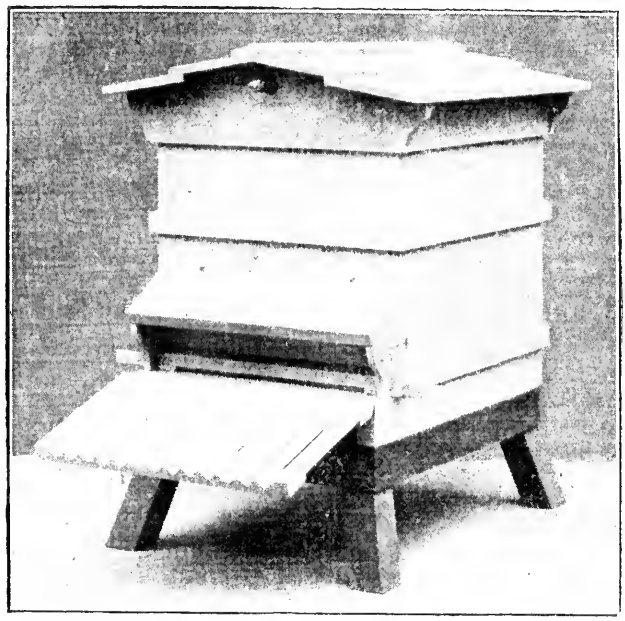
HOW TO MAKE IT.

The reply to Query No. 2119 (page 429) in last week's issue has brought us so unexpected a demand for copies of the B.J. containing description of the "W. B. C." Hive, that all our reserve stock has gone, and we have still many orders for it unfilled. We have, therefore—in response to the request of several readers desirous of making the hive in the coming winter—decided to reprint the article, as under :—

In answer to the query, "What sort of hive do you use yourself?" you were good enough to give, in the *Record* for March, 1890, perspective drawings and detailed measurements of what is now known as the "W.B.C." hive. Unfortunately, to begin with (but through no fault of yours), the measurements were not correct, and various queries have been submitted to you from time to time, respecting these and other details, which it is unnecessary to recapitulate. The latest of these appeared in the Bee Journal of December 17, 1896 (2734, p. 504), as well as a reply thereto. If your querist understands the reply, well and good for him, but there is just the possibility that others of your readers may be in the same dilemma, and who, on reading the reply, containing, as it does, such a formidable array of figures—together with the introduction of other matter not pertinent to the question—may resolve to give up in despair their intention to construct one for themselves. Now, in order if possible to prevent this result and assist those who are willing and able to help themselves, I have prepared a plan and two sections, drawn to the accompanying scale, which, should they merit your approval, will, I believe, place the details and measurements of this most useful hive within the power of any such to comprehend or commit to memory for that part.

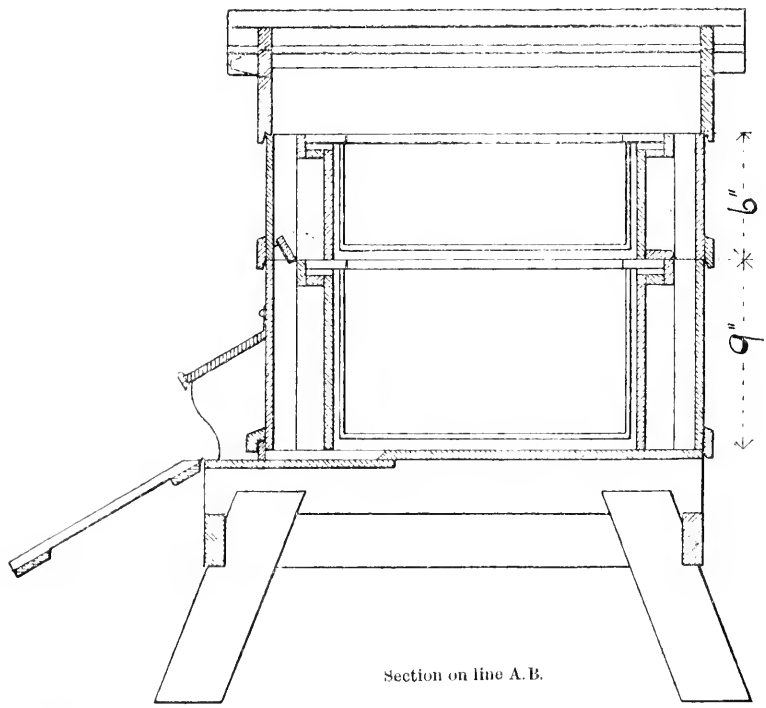
Keeping strictly in view your description





THE "W. B. C." HIVE.

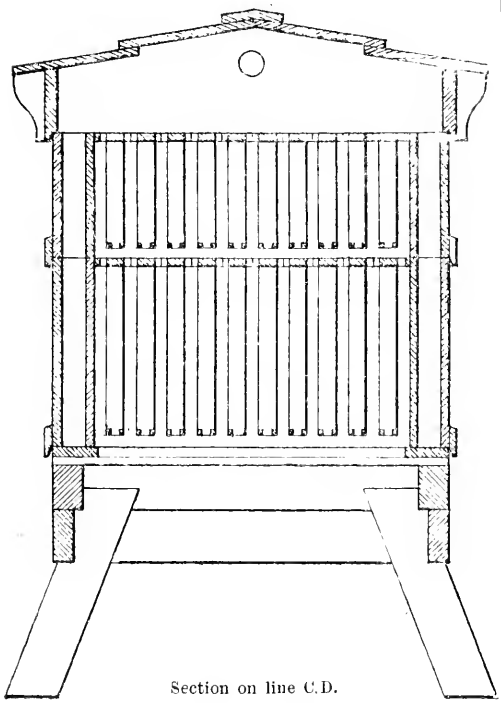
(With Mr. Peebles's Improved Alighting Board.)



Section on line A.B.

and illustrations (with one exception), avoiding technicalities and fractional parts of an inch as much as possible, the principal dimensions will, for all practical purposes, be found correct. The tracings are from drawings of my own hives, five of which (as you know) I made in 1892, and the following description applies to them :—

The floor-board, covering of roof, casings, body and surplus boxes, are made of selected American yellow pine (or Waney-board), half an inch thick off the saw, and if cut with the perfection of nowadays, all the dressing required is a skim over with a hand-plane to remove the saw marks. If this is attended to, it will be found when the hive is put together,



Section on line C.D.

that the outside sizes marked on plan tally with the principal inside dimensions given by you.

The frames of the stand and roof, as well as the hive proper, are dovetailed (not simply nailed) together. Where required screws are alone used, and these are previously dipped in paint, the overlaps and plinths are screwed from the inside. Where the wood overlaps it gets two coats of white or red lead and oil previously. There are no hand holes, the plinths of the case and the ledges on boxes filling the requisite. The plinths are bevelled on inside edge as shown. You will observe that the end pieces or kerbs are also half an inch thick ; this is necessary for hinging the narrow flaps to—one of which is shown partly open—the other sheet. These flaps are used primarily for covering the exposed ends of top bars, and for keeping the surplus chambers in position.

(Conclusion next week.)

IRISH BEE-KEEPERS' ASSOCIATION.

The Committee met on 20th inst. Present, Rev. J. G. Digges, in the chair, Miss Rutherfoord, Dr. Traill, Mr. Farrelly, Mr. Watson, Mr. O'Bryen, and Mr. Chenevix, hon. sec. The following resolution was passed unanimously :—"That, owing to the spread of foul brood, the public are warned not to purchase stocks of bees unless certified by an expert to be free from that disease, and that the attention of local bee-keeping associations is earnestly called to this matter."

Bee Shows to Come.

November 9 and 10. at the Drill Hall, Basingstoke.—In connection with the Basingstoke and District Fanciers' Show. Two classes for Honey, with special prize. Entries close November 2. Schedules of W. B. Cannon, hon. sec., 5, London.street, Basingstoke.

November 17.—In connection with the Ludlow Chrysanthemum and Fruit Society's Exhibition. Two open classes for "Sixes." Entries close November 12. All particulars from Mr. John Palmer, hon. sec., 17, Brand-lane, Ludlow, Salop.

METEOROLOGICAL

OBSERVATIONS TAKEN AT DUDDINGTON, STAMFORD, NORTHANTS, FOR THE WEEK ENDING OCT. 29, 1898.

1898.	Bar. in.	Tem. 9 am deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in.
Oct. 23....	30·02	52·9	62	45	17	53·2	—
,, 24....	30·00	52·3	59	47	12	52·8	·17
,, 25....	29·90	48·5	58	41	17	49·2	—
,, 26....	29·91	57·9	62	48	14	54·8	—
,, 27....	29·94	54·0	58	52	6	54·9	—
,, 28....	29·88	54·7	62	51	11	56·3	—
,, 29....	29·68	56·4	61	48	13	54·3	·44
Means	29 90	53·8	60·3	47·4	12·9	53·7	*·61

* Total, ·61.

Mean vapour tension, 0·339 in. ; mean relative humidity, 82 per cent. ; mean temp. of the dew point, 48·5. The week's rainfall, viz., ·61 in., =13,799·03 gallons, or 61·61 tons to the acre, or 3·05 lb. to the square foot. For the week ending October 22, the mean temperature, viz., 53°·3, was +6°·0, and the rainfall, viz., 1·84 in.. +1·18 in. The rainfall, October 2 to October 22, viz., 2·00 in., is −·08 in., and that January 2 to October 22, viz., 14·60 in., −6·15 in. The rainfall for October 29, viz., ·44 in., =9,954·12 gallons, or 44·44 tons to the acre, or 2·2 lb. to the square foot. Blackberries in blossom on the 29th.

FRED COVENTRY.

Queries and Replies.

[2120.] *Rearing Hybrid Queens.* — The enclosed dead bee was found in a sealed cell, the only one cell in a comb which contained any sign of brood; nor was there a single egg in the hive to-day (October 27). In reducing the hive to the usual six frames for wintering, I have left over some combs built this year, some containing sealed honey and others sugar syrup, sealed and unsealed together with some pollen. 1. What would you advise me to do with them seeing that I have no extractor? I have successfully introduced a Carniolan queen. Next spring, thought of breeding drones in this hive and destroying drone comb in the other hives which are occupied with our native bees. This done, I propose to remove the queen from one of our native bee hives and let the bees start queen cells; then when these cells are seven days old, if sufficient in number, cut out four of them and at once remove two more old queens and insert a queen cell in each hive in place of the old queen. My object is to secure a better-tempered bee than I at present possess. 2. Am I right in breeding the drones from foreign queen, and do you think my method of re-queening is likely to be successful?—Bath "A," *Coleford, October* 27.

Reply.—1. Sealed combs of food kept in a warm cupboard will be quite suitable for spring feeding. 2. The difficulty with regard to drones lies in the fact of your being unable to control mating while other drones than the specially reared ones are within reach.

[2121.] *Larvæ of Wax Moth in Unoccupied Combs.*—My hive has been badly infested with the wax moth and its larvæ. What must I do to kill the grubs? I want to save the occupied combs and bees. There were three empty combs at back of brood-nest badly eaten, which I have thrown away. Ought I to paint over with carbolic acid solution the saw-cut in tops of frames where foundation is fixed? There are grubs of the moth in these interstices. Please help me if you can.—Beeswing, *Cardiff, October* 26.

Reply.—Unoccupied combs infested with wax moth should be fumigated with the fumes of burning sulphur to destroy the larvæ. The best remedy against the pest, however, is to keep stocks strong. We rarely find experienced bee-keepers in this country who are troubled with this pest, which is chiefly found in weak or neglected colonies. Unoccupied combs left in hives outside the brood-nest are specially liable to become infected with the wax moth.

[2122.] *Dealers and their Customers.*—May I ask for a word of advice through your valuable journal on the following case? I sent this autumn to a firm who deal in bee-appliances an order for a quantity of comb-foundation, expecting, of course, to get it at the catalogue price; but when the account comes I find it charged higher than quoted in the printed list. This being so I ask: has he the power to compel me by law to pay the higher price? The point is of importance to bee-keepers generally, and that is why I would like to have your opinion in print. I send my full name and address, but not for publication, and will be grateful for reply.—G. S., *Glos., October* 24.

Reply.—We should rather have thought that any deviation from printed prices of foundation would be by way of reducing the charge in autumn, not increasing it. Your remedy would, we think, lie in refusing to pay beyond catalogued price.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

*** So numerous have been the letters received expressing sympathy with Mr. and Mrs. Cowan and family that we hope the writers will kindly accept this general acknowledgment of their good wishes. We will, however, acquaint Mr. Cowan with the names of their sympathisers, and forward to California such letters as contain anything requiring his personal attention.

E. E. B. S. (North Devon).—*Feeding Driven Bees.*—1. At least 20 lb. of syrup food should be given to make a stock of driven bees, supposing them to be put on built-out combs. 2. The parasite, *Braula Cœca,* infests only the bodies of the bees, not the hive; the one referred to, therefore, cannot be that particular bee pest. Send us a a specimen, and we will decide the point for you. 3. It is rather wise than "unwise" to medicate bee-food as a precaution against foul brood, though the colony may not be now diseased.

Browser (Lydbrook).—*Unfertile Queens.*—We should say that neither of the queens sent were mated.

Saxon (N. Wales).—*Feeding Bees.* — We never advocate outside feeding at all; as to the "little lot" it would have been preferable to have strengthened them or joined them to another lot. Feed with candy now, and give enough to last the winter if possible.

Editorial, Notices, &c.

BRITISH BEE-KEEEPRS' ASSOCIATION.

The monthly meeting of the Council was held at 105, Jermyn-street, S.W., on Friday, the 4th inst., under the chairmanship of Mr. E. D. Till. There were also present Messrs. H. W. Brice, W. Broughton Carr, W. O'B. Glennie, J. M. Hooker, E. Walker, T. I. Weston, C. N. White, and the Secretary. Letters explaining absence were received from the Hon. and Rev. Henry Bligh, Miss Gayton, Mr. W. H. Harris, and Mr. P. Scattergood, Jun.

The minutes of the last meeting were read and confirmed.

Miss M. N. Fraser, Isle Farm, Isle of Whithorn, Wigtownshire, was duly elected to membership.

Examiners of candidates for second-class Expert certificates on November 18 and 19, were nominated and appointed, subject to acceptance of the office by the gentlemen selected.

The Prize Schedule of the Honey Department of the "Royal" Show, to be held at Maidstone in 1899, was drafted for approval by the R.A.S.E. It being generally considered advisable that the prizes in this section of the Show should be of greater value than in recent years, it was resolved to make an effort to raise an additional £50, to be expended in improving the exhibition. The Kent and Sussex Bee-Keepers' Association desire to co-operate in promoting the success of the Honey Show, and will probably assist by a donation to the prize fund. The Editors of the BEE JOURNAL have also kindly promised to receive and acknowledge contributions from those anxious to help in a similar way.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[3430.] With the month of November outdoor bee-work has ceased, and interest is now centered on the acquisition of knowledge for the furtherance of our craft, or for our own individual advancement. In either case the bee-keeper who does not idle his winter hours away is to be commended, because the individual cannot well work, plan, and strive to advance while giving the results of his labours in print without his example becoming a potent factor in some one else's life-struggle. Even those who are selfish enough to keep to themselves all the "good things" connected with "the bees" that have come to their knowledge either by reading or practice—even these, as I have said, cannot hide the fact of their well-doing in bee-culture, and this will act as an incentive to some one who may live near them. On the other hand, if the successful one is of a generous, communicative turn of mind, though he may be somewhat of a scion of "Baron Brag's" family, and disposed to "draw the long bow," yet the cautious listener who is after sober facts may know how to sift the grain from the "chaff," and then learn something to his advantage. The observant one in nature's walk, too, must have discovered many useful facts that another may perhaps be inclined to call "fads" that have come to his knowledge during the working bee-season; to such I am sure our Editors will extend the right hand of fellowship, and give ample room for recording any interesting items in our JOURNAL which will be welcomed by all. Nor should there, I think, be any diffidence because you have not written anything for print before; for I feel sure if sent along to the office our Editors will put it into readable shape.

The past month has been wet, but mild, with a rainfall here of nearly 5½ inches, but no frost, and now (November 7) weather is still mild. Bees are on the wing, and to-day I saw wasps still trying to gain an entrance to the hives but only getting rolled off the alighting board by the bees for their pains. This is exceptionally late for wasps to be about, but I expect the fine, dry weather so late in autumn has prolonged the breeding season, so that the wasp may not be longer lived this year than usual.

The Dairy Show Exhibits.—As would be noticed this year the exhibits have not been so fully reported on in these columns as they usually are. The broad shadow cast on the life's pathway of our loved and esteemed senior editor (through which by Christian faith he could see a silver lining) reached all of us at the Show, and those who know him either personally or only by his writings, one and all expressed heartfelt sympathy with the family in their sad and irreparable loss. The junior editor we saw hurrying away from the Hall almost as soon as the judging was over, evidently to prepare the current week's B.B.J. for press, so that anything that may have been of special interest and received editorial comment in the usual course was perforce left unnoticed. This, I think, leaves the matter open for a few short "notes" from those present in the hope of raising a discussion, if nothing more. For myself, then, I may say first, the general arrangements of the honey section of the Show was a distinct advance on previous

years, and the staging of exhibits was carried out without a hitch, thanks to the assistance of members of the British B.K.A. The classes for light and dark-coloured run honey ought, I think, to be clearly defined in the schedule so that the exhibits in each class may be more uniform. Some exhibits I saw in the light-honey class were darker in colour than those which took the prizes in the dark-honey class, a fact which I thought would serve to teach exhibitors who were at the Show that their honey if in the dark-honey class might have taken a prize if entered as such, but in the light-honey class would stand no chance of winning.

In the section classes some capital samples were staged. Most exhibitors, I notice, used the lace bands for glazing, and I look forward to the time when dealers in section honey will insist on each section being glazed. The display of sections in one of Lipton's shops not far from the Hall was enough to disgust any one who went in to purchase; in fact, from the outside, no one was likely to be tempted into the shop to buy, yet the sections seen there were good and fairly well filled. The price also was right (for consumer), but from exposure to damp, dust, and flies the whole heap was spoiled; in the top ones the honey was "weeping" and running down on those below, saturating the wood of the sections and spoiling them in consequence. Now had these sections been glazed and marked threepence each higher in price, I venture to say that where one such was sold a dozen would have been disposed of at the higher price.

Some bee-keepers will not take the trouble to glaze sections, and the feminine section of some households will not bother themselves with such bee-jobs. I therefore suggest that where any difficulty exists some poor, needy woman be engaged to do the glazing. The materials will cost, say, 6d. per dozen, and I expect there are women in most places who could glaze sections for about 3d. per dozen, and earn a fair wage at the price.

The "Parcel Post packages" were various, to say the least, from the interior of a loaf of bread to slender strips of wood tied across the face of the sections. The latter were, of course, smashed in transit, but the sections sent inside the loaf came safe to hand, though it is more than probable that the price of the loaf told against the package with the judges. That sections of honey can be safely sent by post I have proved myself, but I prefer to send small parcels by passenger train, and when packed in a box large enough to allow of sufficient hay packing all round, they travel cheaply and safely, without the bother and expense of return empties. But when a "sample" or a couple of sections is asked for I pack them either in a small light box or in a parcel with hay all round them in brown paper, and mark "Fragile—Honey with Care," exactly as my prize exhibit at the Dairy Show. The class for bees-wax was a grand one, several specially good samples being staged. The only advance possible that I can see in this class would be for exhibitors to show their skill in forming the cakes suitable for market. This would, I think, teach others how to put up this secondary product of the apiary in a marketable, saleable form.

The class for "interesting exhibits" seems to advance with the years; we see a greater variety of comestibles and preparations in which honey and wax form the principal ingredients. This class is a pleasing and instructive feature of the show, and I hope to see a larger scope given to this and kindred classes. "Melpop" ought to figure, or "Honeyade," temperance drinks, &c., in which honey is used instead of sugar, in a class alone.—W. Woodley, *Beedon, Newbury.*

CURING FOUL BROOD.

TREATMENT BY ANTI-TOXIN.

[3431.] The letter of "J. H. S." in the Journal of November 3 opens up a very interesting question, and one which I had fully intended at some future date to attempt to investigate—namely, the variation and possible inhibition of the growth of B. alvei under adverse circumstances. There would be, however, great difficulties in the way of preparing an anti-toxin analogous to the diphtheria anti-toxin. This is prepared by injecting cultures or toxines of the B. diphtheriæ into horses. These animals are naturally immune to the action of the bacillus, and the presence of the injected bacilli stimulates the tissues of the horse to a much greater development of the anti-toxin. This is obtained for medicinal purposes by bleeding the horse and separating the liquid portion of the blood after clotting has taken place. So to procure an analogous anti-toxin we should have to procure an animal that possesses a natural immunity to the action of the bacillus. Also, having obtained the anti-toxin, it would be necessary to treat all the young bees in process of development to render them immune. It would not suffice, as "J. H. S." suggests, to render the queen immune, as her acquired immunity would not be transmitted to her offspring. A natural immunity is transmitted, but there is not, that I am aware, any justification for the supposition that acquired immunity can be transmitted in the slightest degree. It is on a par with the idea that children should not take the infection of measles because their parents had had them, and had so been rendered immune.—Mark Farrant, jun., *Exeter, November 4.*

[We are glad to see the above question taken up by readers who are medical men in addition to being skilled bee-keepers. Mr. Farrant holds the expert's certificate of the B.B.K.A., and, although our correspondent "J. H. S." may not have gone so far as to try for that warranty of expertship, he is evidently a bee-

keeper who has the interest of the pursuit at heart. With bee-keepers of this class, combining scientific with practical knowledge of the craft, investigating the subject referred to, good results are fairly certain to follow.—EDS.]

STARTING AN APIARY.

RAPID INCREASE.

[3432.] It would be affectation to describe myself as a novice, because late in the sixties I took, as I supposed, the first Ligurian stock to Jersey; I afterwards discovered it was the second. But after being beeless for years I recommenced last year with a swarm on Jubilee day, now I have fourteen! This is how it has been done:—

I made up three stocks in the autumn of last year with driven bees, and wintered all four; in the spring I bought a skep and so began the late season with five stocks. Now for this year.

No. 1. Ligurian gave no increase, swarms being returned.

No. 2. No increase.

No. 3. One swarm which was not returned.

No. 4. Carniolans.—Have not their vagaries been described? Split into four nuclei, two of which went to the moors and gave 55 lb. honey in shallow frames.

No. 5. Skep transferred to frame-hive gave one swarm.

This gave me ten, the remaining five being made up with driven bees. I am wintering one lot in the skep to save running the honey which would have been dark and unfit for sale except at a low price.

My apiary is an object-lesson in the folly of killing the bees to get their honey.—ALPHA, *Hull, November* 5.

FOUL BROOD.

HOW I DEAL WITH IT.

[3433.] Having had considerable experience in dealing with foul brood, I was interested in the several reports in your journal describing different modes of treatment. I will, with your permission, give my plan. Supposing then at any time, excepting late in the autumn, two or more colonies prove to be affected with the disease, I take all the combs from, say, No. 1, and give those containing brood to No. 2, after destroying the queen. Should No. 2 not be sufficiently strong to cover all the brood, I kill the queen a week or more before adding those from No. 1. No. 1 I put in empty box, and if honey is coming in well, I let them alone for four or five days; if not, I give them as much syrup as they will take. At the end of that time the bees are put in clean hive on foundation, and any combs they have built are destroyed, and bees are fed if weather is bad. When all brood is hatched in No. 2 that will hatch, and they have a queen (even if a virgin), I put them through the same course as No. 1. If more than two hives are affected, I give the brood from them to No. 2 as soon as they can cover it, and treat them (No. 3) as before directed for No. 1. If the bees in No. 2 do not succeed in raising a queen, I give them a queen cell from another colony or else a virgin queen. The honey is extracted, combs melted down, and the hives well washed with a disinfectant soap. They are then scalded or baked. The frames are treated the same if you think them worth the trouble, but always *burn the quilts*. By this way there is no more loss than cottagers have with their straw skeps; nor, indeed, as much. I have also cured stocks by the "Cheshire" plan—with camphor, and have known them recover when left alone. I cannot see it necessary to sacrifice the bees, combs, and honey. I have had foul brood colonies with 20 lb. or more of honey, and I never waste it now (I have done) or combs either. Foul brood is now a very small loss to me, though it must, of course, give trouble in treating it. I do not claim this as entirely my own method.—S. X.

CLOGGING AIR OPENINGS.

A DISTINCTION WITH A DIFFERENCE.

[3434] In the report of the Conversazione of the B.B.K.A. in last week's issue I am made to say (*vide* last par but one of report, p. 434) that when bees are sent in small swarm-boxes they (the bees) get excited and disgorge the contents of their honey sacs, and so "stop up the *perforated zinc!*" Now, sirs, I may at times give utterance to strange—perhaps even wild—things, but the statement referred to is far too good a joke for one of my serious turn of mind to be capable of producing. At the same time, I am not disposed to credit your reporter with a superfluity of native wit, and so presume it to be an unintentional bit of humour attributable to the fact of his not being a bee-keeper.

Allow me, then, to say that when I spoke of honey clogging the *breathing* apparatus—*i.e.*, the spiracles—of the bees, and so causing their demise, your reporter evidently confounded my meaning with the ventilating perforations of the swarm-box! And so, for his future guidance, I want to explain that there is a big difference between the two openings, although to the uninitiated the distinction may not be quite obvious.—HENRY W. BRICE, *November* 4.

WAX EXTRACTING.

[3435.] In regard to extracting 22 oz. of wax (pure) from seven old pollen-bound combs which I mentioned at the conversazione on October 20, I may say that, after reducing the combs to a mealy condition (which is an important point, as every cell must be dealt with) and soaking them all night, they were well rinsed in three lots of water, each time

passed through a fine wire sieve to thoroughly get rid of the pollen, the colouring properties of which will assert itself in each change of water until all is washed away.

Then as to extracting, I use an extractor of the "Gerster" pattern, but inside of which is a cheese-cloth bag instead of a perforated metal basket (the idea of this is to squeeze out the wax); after the cocoons and wax have been steaming for half an hour it is subjected to pressure, which is the only means of securing all the wax; it is then steamed again another half hour and pressed, this process being repeated the third time, and if the cocoons are turned out and left to cool till morning it will be seen that there are no flakes of wax hidden amongst the rubbish, as when done in the usual way. The wax is afterwards melted down in one cake and allowed to cool slowly all night, so that all impurities may settle and be scraped off.

On going over to my apiary at Wood Hayes, which is three miles from my home, I found, on looking through my combs, they are all too new to melt down, so if any one interested will supply me with six old pollen-bound combs which have had full sheets of foundation inserted at the first I will return one in a mealy condition and one washed ready for extracting, the remaining four extracted with wax ready for sale, and the cocoons as well if desired.—W. FORD, 3rd Class Expert, B.B.K.A., *Wolverhampton, November* 5.

FOREIGN BEES.

DO THEY IMPROVE OUR OWN?

[3436.] I think many of your more northern readers would be much obliged if you could make a opportunity during the winter of giving some information as to the desirability of introducing foreign blood into apiaries north of some dividing line in England; for instance, the old one of the Humber.

The climate and general conditions of the north and south are so different, that northern bee-keepers find that they generally have to make a considerable allowance before taking, with liberal exactness, advice quite correct for their southern brethren.

If your are unable of your own knowledge to give such information as I ask for, perhaps an invitation from you might elicit for the columns of the B.B.J. accounts of what has been actually done in the matter.—SIDNEY SMITH, *York, November* 7.

[We will be glad to have the views of readers on the desirability or otherwise of introducing the foreign element into British aparies, as suggested by our Revd. correspondent, because whatever may be our personal views on the subject, there is no reason for attaching more value to them than they are worth. And so we may perhaps pen a few lines during the winter months, after hearing what others have to say.—EDS.]

MEAD AND MEAD PRODUCTS:

AN "INTERESTING EXHIBIT" AT THE DAIRY SHOW.

[3437.] The exhibits of mead and mead products staged at the Dairy Show by Mr. T. I. Weston, Lichfield-road, Stafford, demand something more than a passing notice. Mr. Weston, unfortunately, was not able to get to the show, and, consequently, the nature of the exhibit was not explained so well as if he had himself been there. Nevertheless, many visitors showed great appreciation of Mr. Weston's enterprise in preparing an exhibit which was not only absolutely novel, but had a useful and educational bearing. One must admit that the inducement to take up the manufacture of mead commercially is not very great, hence the greater credit to Mr. Weston for attempting what he has, viz., the preparation of mead and the process of fermentation by pure yeasts. These ferments were from the Institute of La Claire du Locle, Switzerland, which is under the management of Mr. James Burmanne. The principle enumerated by these experiments is that the product treated, or fermented, inherits the superior flavour of the wine from which the special ferments were derived. For instance, the Sauterne ferments used in preparing the mead produced an approach to Sauterne flavour in the prepared Hydromels exhibited. Certainly both the Hydromel "Sec" and the Hydromel "Liquoreux" were excellent, and the H. Liquoreux was simply a "luscious" drink, as the adjective implies. The Eau de Vie prepared from Hydromel was also very good indeed, and possessed a very fine aroma.—ONE WHO WAS THERE, *November* 4.

(*Correspondence continued on page* 446.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Our Bee Garden illustration this week is somewhat of a "portrait" picture, not without its usefulness, we hope, to general readers as tending to show a lady bee-keeper and her sons very much at home "among the bees." When one hears of the nervous dread entertained by some persons of a live bee, and and then sees an actual photo—from life—of a bee-garden, taken while the bees are flying, it should only need the added interest conveyed in the "text" which follows to remove much of the alarm referred to. We quite admit that precocious owners of colonies of live bees, aged seven years, are not common, but Mrs. Hipwell's family appear to be born bee-keepers, and that being so they are perforce assured of the good wishes of "all of us."

Writing in response to our usual request for some particulars regarding the apiary shown and its history, Mrs. Hipwell says:—

"I commenced bee-keeping in the spring of 1895 by purchasing a swarm in a straw skep, and also stock in a bar-framed hive. Then, in

the autumn of the same year, I bought four old straw stock hives from the same man, and have since increased my apiary to seventeen hives. They are very quiet bees to handle. You will see by the photo that I am partial to the straw skep and the old-fashioned bell-glasses for comb honey, as I think they pay very well, particularly when one wishes to increase their stock rapidly by natural swarming. I have found that a straw skep will invariably give two swarms in a season, and if a bell-glass is put on as soon as possible after the first swarm is hived the bees will usually commence building, and fill it with honey ere the season ends. I had a swarm come off on one Sunday morning in May, and I had no sooner hived them into a straw skep than a swarm issued from another hive and settled into the mouth of the skep which contained the previous swarm. However, both swarms had evidently agreed to become one family, and united very well together, so at night I put on a straw cap to give them more room, and in three weeks they had filled it with honey, with which same honey I took the second prize at the Herts Agricultural Show at Hatfield in 1897. I then put on another bell-glass, and removed it full of honey at the beginning of September, so that the double swarm gave me 20 lb. of honey the same year they were hived. I got about a hundredweight of honey that year.

"The other figures seen besides myself in the picture are those of my two boys, both being bee-keepers, with a hive of his own, and not a bit afraid of the bees. Indeed my seven-year-old baby-girl has a hive of her own, and has no fear of the bees, but is highly delighted to have the cover of her own bell-glass lifted off to watch her bees at work building combs and filling them with honey. She has only been stung once, and then was only heard to say 'Poor little bee, it didn't mean it.'

"I am much in favour of the bar-frame hive for good bee-keeping, however, and keep skeps mainly for increasing my stock and for the intense interest and amusement it affords to watch the little creatures at work in the bell-glasses.

MRS. HIPWELL'S APIARY, HATFIELD, HERTS.

"I scarcely ever have to feed the bees in the skeps, but if on lifting them in spring I find them at all light I take out the bung at top and push in a cake of soft candy, which makes all safe. There is, however, no comparison between the skep and frame-hive for working with, and I like the latter so much that when my husband asked me to choose a present for my birthday, I chose a bar-frame hive. So you see my bees have a prominent place in my thoughts. My hives I paint myself, with enamel paint of light colours in various shades, and my little home of the honey bees is admired by every one."

Our readers will no doubt admire it too.

CORRESPONDENCE.

(*Continued from page* 444.)

DOUBLE *v.* SINGLE WALLED HIVES.

[3438.] I would suggest that your correspondents 3309 (p. 262) and 3414 (p. 415) prove for themselves whether double or single walled hives have the most equable temperature by carefully noting the variation by means of a regulator thermometer during the coming winter and through next spring and summer. Then let readers know through the columns of B. B. JOURNAL the result of their notes. Possibly others may do the same, especially your correspondent Mr. Fred. Coventry, who sends those interesting meteorological observations. All others to withold remarks till such proofs appear ; for doubtless, neither will be convinced without such proof.

A misleading "Brief Dispatch" from the *Weekly Dispatch* of October 30, 1898, says :—"Fifty pounds of honey are annually produced by a hive of 5,000 bees. In five years the bees will have increased to 50,000."—A. H., *North Bucks, November* 5.

"INTERESTING EXHIBITS."

HONEY PRODUCTS AT THE DAIRY SHOW.

[3439.] The Eau-de-vie (distilled from mead) in Mr. T. I. Weston's exhibit at the Dairy Show was really something very choice, and its attractions proved quite too much for that zealous temperance advocate, Mr. J. H. Howard, of Holme, Peterboro', who is so well-known to almost every one in the "mellific" world. Several connoisseurs passed high encomiums on the product. A very small libation was poured out into the palm and then, after briskly rubbing the hands together, the noses of the critics were brought down like the nose of a terrier in a rat-hole, and you could hear "sniff! sniff! sniff!" and then the exclamation, "Magnificent!" Mr. Howard has a weak heart, so he "says" (?), and the Eau-de-vie was administered to him in an extremely small dose. Mr. Howard at first awarded the exhibit an "H.C.," but having misgivings as to whether his award did it justice, he desired permission to make further trials, the result of which were that he pronounced it worthy of a Very High Commendation, or a V.H.C.! The irregular heart-action yielded almost immediately to the application of the remedy, which proves, at least in Mr. Howard's case, the therapeutic properties of a mead Eau-de-Vie.—E. D. T., *November* 7.

WASPS AND FOUL BROOD.

[3440.] Referring to the query of a Kent correspondent in your issue of October 20 (page 420) as to "whether foul brood can be communicated to wasps," I remember some five-and-twenty years ago digging out two or three wasps' nests in one season where the greater part of the larvæ were dead and discoloured, and the combs had an appearance of rottenness, emitting a disagreeable smell. So revolting were they that I quickly buried them again instead of preserving them for fishing, as was my wont. I never found anything like it before, nor have I since. In those days I was in blissful ignorance of foul brood, but of late, when this bee disease must and does engage an expert's attention to a great degree, I have often thought of the dead larvæ of the wasps and wondered if it had any connection with foul brood. Yet I am inclined to think it had not, for bee-keepers are always wasp-destroyers, and enlightened bee-keepers would in all probability have discovered the disease ere this if it existed.—G. F., *Kenilworth, October* 31.

THE "W. B. C." HIVE.

HOW TO MAKE IT.

(*Concluded from page* 439.)

In a recent number of the BEE JOURNAL or *Record*, I forget which, you were asked, "if the hive could be pushed hard up to the outer case to prevent the bees rushing up?" and your reply was that they could be so utilised, but that some manufacturers had a piece of wood *fixed* across the sunk entrance for that purpose. I thought at the time that this was certainly a mistake, because by so doing the principle of ventilation without draught, which is one of the main features of the hive, would be destroyed. Am I right?* I have not found it necessary as yet to push the hive forward, never having been troubled with the bees in rushing up. Observe also that the ends of the body box and the surplus chamber are flush, this (as you recently inferred) is sometimes necessary to prevent the bees rushing up inside when manipulating body-box, by simply pushing it forward against the case. The hives are painted three coats light stone colour, the stands being dark green, and are as perfect as on the day they left the workshop. Allow me to state that to make a variation in the thickness of the wood, for the sake of a trifling difference in the size and weight, is of little moment, and is more than compensated for in having the wood of a uniform and obtainable thickness.

I have, therefore, had very great pleasure indeed in preparing these tracings and description for your personal consideration and for the benefit of your readers ; and if you see anything in the tracings requiring alteration I will be very pleased to do whatever you may think necessary in the way of improvement, so as to make everything simple and easy to understand by an amateur joiner of ordinary intelligence. For myself, I will grudge no labour of

* Quite right so far as winter, but in summer it is needful to use the strip to keep bees from clustering in the space.—EDS.

mine thrown away, if it will help to make the "W. B. C." hive properly and easily understood. The technical terms used by the trade throughout the world are so various that, unless accompanied by detailed plans, mistakes will always occur. When the description and drawings of this hive were first given in the *Record*, I at once found mistakes in the measurements, not of much consequence, certainly, to a practical tradesman, one who could make allowance for such and also rectify them, so as to carry out the idea which you well describe in your introduction. Had you just stopped there all would have been well, but you wanted sectional drawings to explain it without the measurements, &c, in such detail, in the same way as the "Cowan" hive is illustrated in the "Guide-Book." I had often the idea of supplying you with them, but was afraid to venture. The continued inquiries about it, however, and also the corresponding alterations in the measurements and details, at last fairly made me risk it, believing that after your honest confession of inability to deal with these "technical details," you would willingly give me all the assistance in your power, so that conjointly we might supply all that was necessary in the way of illustration.

Why cannot the "W. B. C." hive be made as plain as A B C? *It shall?*—ROBERT PEEBLES.

WEATHER REPORTS.

WESTBOURNE, SUSSEX, OCTOBER, 1898.

Rainfall, 3·79 in.
Heaviest fall, ·95 in., on 29th.
Rain fell on 18 days.
Below average, ·14 in.
Maximum Temperature, 63°, on 3rd.
Minimum Temperature, 35°, on 13th.
Minimum on Grass, 27°, on 13th.
Frosty Nights, 0.
Sunshine, 93·4 hrs.
Brightest day, 3rd, 10·5 hours.
Sunless Days, 6.
Below average, 31·9 hours.
Mean Maximum, 57°.
Mean Minimum 45·9°.
Mean Temperature, 52·4°.
Above average, 5·5°.
Maximum Barometer, 30·43°, on 2nd.
Minimum Barometer, 28·65°, on 17th.

L. B. BIRKETT.

RAINFALL IN IRELAND. OCTOBER, 1898.

Rainfall	3·75 in.
Heaviest fall on 8th ...	·84 in.
Rain fell on	24 days
Maximum temperature	69°
Minimum ,,	34°
Mean max. ,,	59·80°
,, min. ,,	46·00°
Maximum barometer ...	30·16
Minimum ,, ...	28·90

S. C. HICKMAN (major).

Fenloe, Newmarket-on-Fergus, co. Clare, Ireland, October, 1898.

METEOROLOGICAL

OBSERVATIONS TAKEN AT DUDDINGTON, STAMFORD, NORTHANTS, FOR THE WEEK ENDING NOV. 5, 1898.

1898.	Bar. in.	Tem. 9 am deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in.
Oct. 30....	29·18	49·7	56	47	9	51·4	·02
,, 31....	29·45	48·5	53	46	7	49·4	—
Nov. 1....	29·85	38·0	52	34	18	43·0	—
,, 2....	29·72	52·0	61	38	23	49·5	·22
,, 3....	29·54	52·0	56	51	5	53·5	·01
,, 4....	29·80	43·9	54	40	14	47·0	·01
,, 5....	29·68	48·2	53	44	9	48·5	·03
Means	29·60	47·8	50·0	42·9	12·1	48·9	*·29

* Total, ·29.

Mean vapour tension, 0·274 in.; mean relative humidity, 83 per cent.; mean temp. of the dew point, 43·1. The rainfall, viz., ·29 in., =6,560·67 gallons, or 29·29 tons to the acre, or 1·45 lb. to the square foot. For the week ending October 29, the mean temp., viz., 53°7, was +8·4, and the rainfall, viz., ·61 in., =the average. The rainfall, October 2 to October 29, viz., 2·61 in., is −·08 in., and that January 2 to October 22, viz., 15·21 in., −6·15 in., and that January 1 to October 30, viz., 6·28 in., −6·23 in.

FRED COVENTRY.

SURREY B.K.A.

HONEY SHOW AT FARNHAM.

An exhibition of honey and bee-appliances, in connection with the Cottagers' Show, was held in the Corn Exchange, Farnham, on the 21st ult. Referring to the bee-keepers' section, the *Farnham Herald* says:—"Mention must be made of the honey show, which, for the second time, formed an interesting annexe to the main exhibition. Like the vegetable and fruit cultivators, the bee-keepers found the season against them, but that notwithstanding they placed considerably more exhibits in position than last year. This speaks well, not only for the industry of the individual bee-keepers, but also for the zeal of the hon. secretary (Mr. J. White Lewis) and the committee who managed this part of the show. Some of the exhibits, more particularly those of run honey, were of the dark colour which it is sought to avoid as much as possible; but for this the drought must be held responsible. Taking all things into consideration it was a wonderfully good display, and one of which the Bee-Keepers' Association may well be proud. In this department also there were some non-competitive exhibits, sent by Miss Poulton, of 'The Elms,' Frensham, and Mr. George Langrish, of 'The Hollies,' Frensham."

Mr. Povey and Mr. Overton judged the honey exhibits and made the following awards:—

OPEN TO MEMBERS OF THE SURREY B.K.A.

Eight 1-*lb. Sections.*—1st, G. Langrish; 2nd, J. W. Lewis; 3rd, Kate Hook; h.c., J. C. Clark.

Four 1-*lb. Sections.*—1st, J. C. Clark; 2nd,

G. Langrish ; 3rd, E. Clapshaw ; h.c., J. White Lewis ; c., H. Dowding.

Eight 1-lb. Jars of Extracted Honey.—1st, R. Beale ; 2nd, G. Langrish ; 3rd, J. White Lewis ; c., Miss Parker.

Four 1-lb. Jars of Extracted Honey.—1st, R. Beale ; 2nd, G. Langrish ; 3rd, J. White Lewis ; c., H. Dowding.

Collection of Hives.—T. Overton, Crawley.

OPEN TO COTTAGERS RESIDING IN FARNHAM.

Sections of Comb Honey.—1st, W. Brant.

Super Skep of Comb Honey.—2nd, C. Winslade ; 3rd, Brockhurst.

Run Honey.—1st, W. Brant ; 2nd, C. Winslade ; 3rd, G. R. James ; h c., C. Winslade.—*Communicated.*

Echoes from the Hives.

Nenedale, Wellingborough, October 31, 1898. —The honey harvest in this part of the country—Northants—this year has been most disappointing owing to the severe drought and the prevalence of honeydew. Stocks came through the winter well, but, owing to its mildness, stores were greatly reduced. After a short period of rapid breeding, cold, inclement weather came on, and the usual early supply of nectar failed ; hence followed a weakening of stocks at the critical period—in fact, not a few perished—as I think, for want of food. Others become a prey to the wax moth, especially those in skeps. When the honey-flow from clover and limes did come there was little of it, and this little was completely spoiled by an excessive production of honeydew, which seemed to abound the more in proportion as the nectar fell off. The result around us is—very little honey to take, and that of a dark, dingy colour, much of it being a dark as stout, but without its brightness. However, so far as I have seen stocks are well provided for winter with natural stores and bees are fairly numerous, so we hope for better luck next year.—W. W.

Queries and Replies.

[2123.] *Feeding Back Old Honey to Fill Surplus Chambers.*—A bee-keeper, whom we will call "A," is an expert of the B.B.K.A. He has this year fed back to his bees honey of last year's gathering, while supers were on the hive. He has then extracted the same and exhibited it at a show, and has, of course, won the prize. He acknowledges the feeding back, and I wish to ask (1) Is the whole proceeding "shady" enough to form a valid objection to the exhibit at the show ? (2) Would the B.B.K.A. be likely to take any notice of the transaction is brought before the Council of that body with a view to the withdrawal of the expert's certificate ?—L. and C.B.K.A, *Chester, November* 4.

REPLY.—1. Pre-supposing that the Schedule specified that all honey shown in the class must be "gathered from flowers of the current year," anyone able to prove the contrary would no doubt have good grounds for entering a protest against the award. 2. All communications addressed to the Council of the B.B.K.A. come before that body, and none passed by unnoticed, so you need have no fear on that head.

[2124.] *Starting Bee-Keeping for Profit.* Kindly answer the following queries :—1. How soon could I, having no previous knowledge of bee-keeping, but with good average intelligence and ability, expect to make a reasonable profit from the pursuit, and with what outlay ? 2. Is much capital required ? 3. Where could I obtain practical lessons and how long would it take before I could start for myself ? I am intelligent and *anxious to learn*. 4. What would be the best and most profitable district to start in ? Would South Wales or Devonshire be good from a bee-pasture point of view ? 5. When I had attained ordinary proficiency, could I reasonably expect to make, say £25 a year, and how many hives would that imply ? 6. Would the initial outlay be very great ?—A TYRO.

REPLY.—1, 2, and 6. On these points we cannot do better than refer you to "The First Years Doings of a Novice" (3,413 page 414) in our issue of October 20, last. 3. Mr. Wm. Herrod, apiarist of the B.B.K.A. gives practical lessons in bee-keeping for a moderate fee. 4. There are good districts in many parts of Wales, Pembrokeshire for instance, or about Llanrwst ; also in Devon, Essex, Berks, Surrey, Kent, &c., &c., but it would need inquiry before locating an apiary in any of these places. 5. Given a good district and a score of hives he would be a very bad bee-keeper, possessing business aptitude and not afraid of work, who could not exceed the amount named.

[2125.] *Queen-cells and Queenlessness.*—At transferring time this year I had a stock of bees in a large box which had been hived the previous season, and which I set bodily over top-bars of a frame-hive, but at the end of June I found that they had never taken to the frames below, owing, I expect, to the adverse weather and neglect of feeding. However, wishing very much to get them into the frame-hive, I at once drove the bees out of the top box. After driving I found two cells beside each other like acorn cups, I therefore ask, Do you suppose they had raised themselves a new queen ? or is it probable that the bees had been preparing for swarming but never had the opportunity ? Any information you can impart through your useful journal will oblige.—BLACKBROOK, *Burton, November* 7.

REPLY.—Either of your surmises may be

correct, seeing that everything depends upon the nature of the cells in question. Whether or not "queens had been raised in them" could only be decided by examination, because they may be only embryo queen cells. If you could send the "acorn-shaped cups" to us we could, no doubt, help you.

DO QUEENS LAY EGGS IN QUEEN-CELLS?

TRANSFERRING LARVÆ.

By what I read I see there are still some who claim that the queen never lays eggs directly in the embryo queen-cells found in a hive during times of natural swarming or when the bees supersede their queen. This is in accord with what was claimed years ago, when it was put forth that the queen had such an antipathy towards any rival that it would be impossible for her to lay eggs in the cells prepared for another queen in the hive. But as eggs were often found in these rudimentary cells, something must be put forth to account for their being so placed. It was claimed that the workers carried the eggs found in these cells and deposited them there, keeping the queen from removing or destroying these eggs, and the larvæ which might hatch from them by clustering about the cells.

Right here I wish to place myself on the side of those who claim that bees never remove eggs, for in all my experience of nearly thirty years I have never known of a single egg being conveyed from one cell to another, but in scores of cases have I known larvæ to be transferred by the bees to different combs and queen-cells. On this point I have been more particular than on most others—so much so that I have often found myself wondering whether those who told about bees removing eggs did not really mean larvæ. I call to mind one particular case, where larvæ were removed by the hundred, as it were, but only the eggs were found in embryo queen-cells, although the bees had a laying queen. The circumstances were these :—

A swarm came out one day when I was away from home, and as the queen had her wings clipped they returned. Not desiring a swarm, the hive was opened in the afternoon and all queen-cells cut out. Next day the hive swarmed again, and before I had a chance to pick up the queen (she having run under the bottom-board of the hive) the bees commenced to return ; while they were doing so another swarm came out, and, without stopping to circle, as they usually do, in the air, went directly in with the returning swarm.

Before things became settled another swarm issued from still another hive, and, almost immediately, another, or the fourth, came out and went in with those already returning, so that I had four prime or first swarms in and on that one hive ; the queen in the meantime crawling out from under the bottom-board and going in with them.

As the three queens belonging to the other hives had their wings clipped they could not go with the bees, but were returned to their respective hives and the bees allowed to remain to see what would become of the matter. The next day the four swarms came out as one and were hived in an especially prepared hive, from which I secured more than 100 lb. of comb honey inside of two weeks.

An examination of the old hive showed hundreds of queen-cells started all over the combs ; and, as I now remember it, nearly 200 of these cells had larvæ in them, swimming in royal jelly, while only two had eggs in them. As a number of these cells were built on the sides of the frames it would have been impossible for larvæ to have gotten in them (or the cells built over larvæ) other than by the bees carrying them there.

About this time such men as Gallup, Grimm, and others, began to advocate that the queen deposited in the queen-cells the eggs for all queens that were started while the old queen was in the hive, and, if my memory serves me rightly, Mr. Grimm saw a queen laying in a queen-cell, while Mr. Gallup believed they did so by the position of the egg in the cell. Later on a hired man whom I had work with me in the apiary, witnessed the whole act of a queen laying in a queen-cell while I held the frame in my hand, and I have a letter in my possession from J. E. Ginn, of Ellsworth, Maine, which reads as follows :—

"I have just seen [date June 22, 1893] the queen lay an egg in a queen-cell, the same being not more than ten minutes ago. I thought I would write you at once, so I could give all the details correctly. There is a one-inch space between the frames and the glass [Mr. E. has a glass in the back of a part of his hives], and the bees built a piece of drone-comb in this space, the same having drone brood in it. Looking in to-day I saw a queen-cell half built on the edge of this in plain view. The queen was about an inch from this cell, and one of the bees was feeding her. After a moment she passed in between the frames for a second or so, when she came back and went directly to the queen-cell, put her head up into the cell, then, curving her abdomen, she inserted it well up in the cell and deposited the egg. After laying the egg she again examined the cell, remaining in it with her head perhaps ten seconds. I have written at some length, for the queen seemed to be so particular. I have seen queens lay in worker-comb many times ; and while they would examine the cells before laying in them, yet I never saw one look into a cell after she had laid an egg in it, as did this queen in the queen-cell she had laid in."

It will be noted that Mr. Ginn says the queen inserted her abdomen "well up in the cell," thus assuming the position she does in laying in a worker-cell, as far as the cell is concerned. I touch on this matter, as one of the strong points brought up by the doubting ones

is the ridiculous position the queen must occupy when laying in a queen-cell. But why should not a queen lay in a queen-cell as well as in any of the other cells in the hive? None of the eggs laid in queen-cells, produced during natural swarming, can possibly grow into rival queens to the old one, for she has either departed from the hive before any of the young queens hatch, or the cells are torn down by the workers on account of a scarcity of honey or unpropitious weather, whereby swarming is postponed indefinitely.

When the issue went forth by the Creator of all things—"Go forth, multiply and replenish the earth"—it became just the thing all animate creation desired to do, and hence the queen has just as much desire to do her part towards the replenishing of the earth with colonies of bees as have the workers, all working together in harmony, as far as the issuing of a prime swarm is concerned, and the leaving behind of that which shall insure the perpetuation of the old or parent colony.—G. M. DOOLITTLE *in American Bee Journal.*

Bee Shows to Come.

November 17.—In connection with the Ludlow Chrysanthemum and Fruit Society's Exhibition. Two open classes for "Sixes." Entries close November 12. All particulars from Mr. John Palmer, hon. sec., 17, Brand-lane, Ludlow, Salop.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

QUEEN BEE (Dorset). — *Bees "Balling" Queens.*—1. When a queen is discovered being "balled" she should be released without delay either by pulling the "ball" of bees away from the queen singly, or in extreme cases by immersing queen and bees in water till the bees are forced by the law of self-preservation to release the queen. The latter is then caged along with two or three bees and returned to the hive for twenty-four hours and then released. It is at times a very difficult matter to induce bees to accept a queen after having "balled" her, and in such cases it is best to leave her to chance after once releasing from the "ball" and caging as directed. 2. The contents of cell—suspected of being remains of a deceased larva—when placed under the microscope was found to consist of propolis alone or mixed with pollen, but nothing indicative of disease.

J. M. (Pontypridd).—*Suspected Wax.*—The sample of wax received is evidently foreign, but we see no reason to doubt its "purity" in the commercial sense. In other words, we do not think it has been adulterated. It, however, contains so large an admixture of pollen as to make it unsuitable for purposes requiring pure beeswax.

B. W. (Barnstaple).—*Old Combs.*—Our unqualified advice is to boil the old combs down and burn the skep.

A BEE-KEEPER (Dumfriesshire).—*Bees Moving Eggs.*—The further particulars given do not afford much further light on the matter. That the egg, or young larva, which produced the queen was conveyed into the hive somehow seems pretty clear from the facts now stated.

J. C. (Tring).—*Wax Moth in Hives.*—Specimens sent are the true wax moth. The larvæ live upon the wax of which combs are formed. They gnaw long sinuous passages through the midrib of the comb, and so make it unfit for the bees' use. The best remedy against the ravages of this pest is to keep stocks strong, and restrict the bees in winter to only as many combs as they can cover well. By this means the female moth never gets a chance to deposit her eggs, as it will if any combs are found uncovered by bees. Personally, we never, in all our experience, had a stock destroyed, or even badly damaged, by the wax moth, and attribute our immunity solely to keeping our stocks strong.

J. W. L. (Bournemouth).—*Preventing Loss of Swarms.*—If you have any one near at hand to advise you when a swarm had come off we think the best safeguard against loss of swarms—from your hives located a mile away—would be the appliance described and illustrated on page 288 of our issue for July 21 last. Or, if preferred, you might try the non-swarming hive referred to by yourself and depicted in the BEE JOURNAL of September 8.

A B.B.J. READER (Billericay, Essex).—*Labelling Honey.*—Any honey you know to be pure may be so labelled without reference to its quality as an article suitable for table use; but it is obviously in the interest of bee-keepers to refrain from putting honey on the market which would only discredit the product as an article of food. Your samples are fairly good, but the aroma and flavour is quite spoiled by putting them in bottles not properly washed out after containing something of strong scent and flavour.

G. W. K. (Bristol).—*Honey Vinegar.*—Sample sent is very good vinegar indeed.

W. W. (Wellingboro').—*Red Propolis.*—After careful examination, we find the substance sent to be somewhat of the nature of dried propolis, but whence its brilliant scarlet hue is derived is inexplicable to us.

D MCLASH (Perthshire).—*Suspected Comb.*—Box containing specimen of comb not received; must have miscarried.

(Some other Queries and Letters are in type, and will appear next week.)

Editorial, Notices, &c.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of October, 1898, was £1,033.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications

Communications relating to the literary department reports of Associations, Shows, Meetings, Echoes, Queries Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal,' *Office*, 17, *King William-street, Strand. London, W.C.*"

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

OUR IVY.

A NOVEMBER DAY.

[3441.] November 4. A glorious day! The sky of that dazzling blue as seen in the bell of an Alpine gentian — bluer far than my old friend Veronica. No wonder the lark sings again, though the meadows are flowerless No yellow lotus now, no breadths of white clover, no hop trefoil, no bladder campion, no million spires of red sorrel, no bright hawkweed, none of that joyous life that thronged about the meadows in summer—those blue butterflies, those small and large heaths, those dusky meadow-browns, those bees who sang from daylight till dusk and hummed to themselves all through those warm, delightful, glorious evenings—evenings, for there are no nights in summer!

The lark sings, and the robin, and even my bees, lately made melancholy by the rain, have come out into the sunshine and hum busily amongst the ivy, whose pale green flowers and fresh dark leaves are thronged by an army of flies—flies lively even now after searching frosts, and biting winds, and clouds of drifting rain. How beautiful are ivy leaves in autumn! How green in contrast to the yellows and reds of beech and birches! How luxuriant compared to the nakedness of ash, and chestnut, and lime! How lovely the shadows of the buds and flowers upon the leaves—the sun the shadow-maker! I hope the bees will paint those stigmas well, so there may be plenty of berries. I hope the birds will drop the berries about freely so that there may be thousands more ivy bushes. *Our* ivy bush is a picture; 10 ft. high and 10 ft. through, it forms a huge fortress for birds and insects and quadrupeds to dwell in. Sparrows chirrup and hide their feathered nests amongst its mighty branches, a blackbird and blackbirdess builded their nest there in the spring and laid their browny-blue eggs, so happy and joyous because the nights were warm and the flowers out again in the hedgerows—primroses and anemones; and in the gardens, wallflowers and daffodils, and daphne and white violets. There they sat with a patience prodigious until a little bill—until five little bills—cracked five browny-blue eggs and five little heads and bodies — juvenile blackbirds — wriggled out and thrust up five enormously large yellow mouths, their frames, as it were, running parallel with the entrance to the nest! Instead of feeling the eggs, I used then to put my finger in their open mouths to gull them into believing it was worms—a kind of baby "comforter," no milk in it, but still comforting! How they grew, those little bodies, or rather, how rapidly those worms and grubs were converted into blackbirds! No doubt they would have aided me in the garden, and cheered me in due time with their song, and built nests of their own in my laurels or hollies or hawthorn hedges, had not a stoat out a-hunting heard their screams for food. How beautiful the sun shone on the hawthorn blossom on the morrow, and glinted amongst the young ivy leaves of such a tender and beautiful green! How sweet the garden was with the perfume of wallflower and daphne! How happy the bees were amongst the damson trees' white clouds of blossom! But how melancholy and sad, how terrible, the empty blackbirds' nest and the bewildered and crying parents, under the gentian blue dome and the dazzling white clouds of April!

By the size of its twisted and giant trunks our ivy is probably at least a hundred years old. That great fortress represents a hundred years of patient, unwearied, plodding industry! What limbs and roots it has! How it has grown, and having nothing to climb has fallen over upon itself, and grown again into perennial verdure like a mossy saxifrage! I wish the bee who dusted the stigma of the flower of the bush that bore the berry could have lived to see it in all its glory! I wish the gardener who planted it, and all the children who have gathered its berried branches at Christmas, and all the blackbirds and sparrows that have been merry in its branches were here now, as green, as young, as gay as *it* is to-day! Sad that they should die, and that this tree, this bush, this shrub, this creeper, what is it? this good for nothing but to hold a blackbirds' nest, and feed the remnant, ragged bees and flies of summer—this good for nothing thing should live so long! There it stands, like a great garland, blocking out half the sky and half the stars at midnight. There at its base are the earliest snowdrops, the great

yellow double daffodil, the May flowering, sweet—deliciously sweet—scented poet's narcissus; white violets within its shelter, and a great mass of the larger periwinkle (*vinca major*) drooping over somewhere out of its depths. A few fern fronds (*Lastrea dilatata*) depending from the bank beneath, and the common stonecrop growing on the wall top half encircles it with a band of glowing gold. Bats dart round it in the evening like swallows; caterpillars eat of its leaves; moths go to sleep on its flowers; woodlice colonise the country round about with their superfluous sons and daughters. It is the Mecca of all creepy and crawlsome things. It is their shrine, where they doubtless worship their gods. See! there is a toad in prayerful attitude, and there go three rats into the interior of its giant stumpiness. All the elements and all living things delight in our ivy mound. The rain and hail love to rattle against its leaves, the snow to fill its clefts and deep crevasses, the hoar frost to fringe its pale green berries. There the spider weaves his web, here the last drone fly sits in the warm November sunshine, and there the hive bees and a thousand flies hum as if it were September—as if it were Midsummer. And indeed it is more like Midsummer to-day than dull, dreary November! How lovely the white chrysanthemums and roses in the garden! How the saxifrages glisten! How green are limnanthes and laurel! How delicious that wide blue sky, those hills, red and yellow and amber and brown, with the dying of the tufted bilberry and ling and heather and bracken and mountain buckler fern! Ah, and mountain ash with hanging tassels of coral, and here scarlet bramble leaves, and there the common, golden with gorse blossom. I love these hills more than words can tell! I love their steep sides clothed with ling, and bilberry, and mountain ash, and that white bed straw which carpets the ground and climbs the heather and spreads into Herniaria-like tufts in autumn, greener than pearlwort or mossy saxifrage; and that little parasite, cow-wheat, which burnishes their mighty bosoms, their breathless slopes, under the heat and glare of August; and that dark spruce wood, where it is always cool and quiet, where wood pigeons are always cooing, where it is twilight in mid-day and nothing grows above the soft and springy carpet of fir needles—it is like Norway there. I love, too, their pine woods, pines and larches intermingle, here climbing precipitous slopes, the rocky ground bare beneath them, there crowning the hill with a dark mass of foliage, bristling pine needles; below, breaking away into silvery birch woods, brimming with bracken and bramble, and superb beds of willow-herb, and wild raspberry, and where the furze grows to the height of a man, and where you might pick a ton of blackberries, or a waggon-load of elderberries, and where in the spring-time—I would it were here now—it is like fairyland, the boughs above you all drooping with myriads of pendent, red and yellow, alder catkins, or silvery with soft, silky "palm" on the willow; and the ground beneath you of the softest and most subtle green—the green of mosses; and the strangest and yet fairest yellow—the pollen dust of the alder and "palm" and fir trees.

LORDSWOOD.

(*Concluded next week*).

STARTING BEE-KEEPING.

SELECTING LOCATION FOR BEES.

[3442.] I notice a correspondent who signs himself "Tyro" (2124, page 448) puts a query as to "Starting Bee-keeping for Profit," and I see in the reply that you mention Devonshire as one place to begin in. If he thinks of coming to Devonshire, I can tell him something about the capabilities of the county, and can also supply him with eight stocks in frame-hives and four in skeps to start with. I do not know if you will consider this an advertisement or only a reply to the "Queries?"—C. MARKS, *Devon, November* 12.

[We insert the above with pleasure because of its promise to afford information to "Tyro," but since our correspondent is a little uncertain as to the "free ad." side of his letter, and by reference asks for our view thereon, we are perforce compelled to answer—as the little man did when the irate mother observed, "Did you say that was a *ugly* child?" "No, ma'am, I only said as it was 'markably like a child as I once knew as *was* ugly!"—EDS.]

APICULTURAL NOTES.

A POOR ENDING TO A BRIGHT BEGINNING.

[3443.] We have now come to the end of one of the most tantalising and disappointing bee-seasons that I have experienced for a long time. But, although a bad year for bees, 1898 has by no means been the worst that I have known. My own prospects were never brighter than at the opening of the season. Stocks came through the winter and spring without the aid of any artificial food, and most of my colonies were supered by the third week in May, the bees taking to supers readily. Hives were crowded with bees just at the time when hundreds of acres of white clover and other honey-producing plants within bee-flight of my apiary were coming into flower and encouraged me to look forward to a bountiful year. Moreover, the whole of my honey crop—however large it might be—was sold before a single ounce was gathered. Everything had been got in readiness, and there was only one thing wanting to make the year successful—viz., suitable bee weather. But unfortunately that is just what we didn't get. Sunshine there was in abundance, and the clover in full bloom at the time, but cold north winds prevailed, which of course meant no honey; sections partly worked out during the first

week they were on the hives remained stationary for a long time, and it was not until July 19 that my first consignment of section honey was despatched to customers. The clover kept on flowering for an unusually long time, and this fact made me hope that I should get at least a few good bee-days before it entirely disappeared. More than once I myself welcomed with delight a change of wind from north to south, with a beautiful red sunset, and the rising of dew on the low-lying meadows, which generally indicate that the morrow will be a hot day. But this year bee-men hoped in vain in my district, for before the day had far advanced the wind got back to the old north quarter, and bee-work in the way of honey gathering was brought to a standstill. Not until the clover bloom had all died down and the best part of the season was gone, did genuine hot bee-weather set in.

But, although the hot weather came late in the season, it was at least of some use to the bee-keeper. If we had had no really hot weather in August, our surplus honey would have been almost nil, and extensive feeding would have been necessary in the autumn ; indeed, the change coming just as it did enabled me to get several gross of completed sections by the end of August, and by the end of September all brood-chambers were full of honey—so much so that the brood-nest was in many cases reduced to small proportions, and I half wished there had been less honey and more brood ; but the happy realisation that every colony had got sufficient natural stores to last for at least six months left but little room for regret.

Some of the honey in my home apiary has been darker than usual ; the flavour, however, has been good, and for that reason has been preferred by some to the lighter coloured. At one time I was afraid our bees were going to store a lot of honey-dew upstairs in surplus chambers, but I had not more than a dozen sections spoilt from that source ; while at my out-apiary—worked for run honey—there was not the slightest trace of honey-dew throughout the season. The whole of the honey was of beautiful light colour and splendid flavour ; better I never had. The only cause for complaint is that the quantity was too small.

Built-out Combs versus *Comb-foundation.*—A few weeks ago your veteran correspondent, Mr. John Walton, stated in the JOURNAL that his bees had this year readily taken to combs, while foundation was entirely neglected ; and asks what has been my experience in the matter. Our friend does not say whether he refers to combs for extracting or to sections. I have endeavoured all along to make it clear that the position I took up with reference to foundation *versus* ready-built combs refers to sections only, although, as previously stated in your columns, I am by no means sure that we do not over-estimate the value of ready-built combs, even for extracting. I started the season of '98 with new sections filled with new foundation. In fact, I had no sections of comb by me, all such having been broken up at the end of last year. I am, therefore, unable to give any comparative results for 1898. But one thing I noticed which may be of interest, viz, when some full sections were removed and replaced with sections of foundation, the latter were filled and sealed over, while those which had been on the hive a long time remained incomplete. This would prove, if proof were needed, that bees have a decided preference for new work. I still adhere to what I have previously stated, viz., that my bees will take more readily to sections of new foundation than combs left over from previous year. And that the former, when finished, have a decidedly better appearance than the latter. Nothing has transpired, even during the peculiar season of '98, to cause me to alter my opinion.—ALLEN SHARP, *Brampton, Hunts, November* 14.

WAX MELTING AND MOULDING.

[3444.] By the account of the B.B.K.A. Conversazione the gentleman referred to as "Another," at top of 2nd col. on p. 433 of B.J. for November 3, propounds what appears to be a quite incomprehensible method of extracting wax. Being, I suppose, the person most qualified to know what "Another" does, may I be permitted to give a rather more correct version of what "Another" *said*—that is, if the matter is not too trifling ?

Away from *gas* and other signs of civilisation he uses a *paraffin* stove and a large tin. The tin was built expressly for boiling two gross of infected frames and some queen excluders, appropriated to wholesale wax-melting as afterthought.

The melted combs are poured over cheese-cloth which is nailed upon a tub (not tube). The wax runs through, the refuse remains above. On the second time of melting substitute flannel for cheese-cloth, and the wax will be quite pure. Omit cheese-cloth if you like, but then the flannel must be *mightily squeezed* to get the wax through.

All this is quite orthodox and unoriginal. "Another" read the various wails and counter-wails on the subject in the B.B.J., and having paid his money, he took his choice ; having come, through experience, to the same conclusion, I suppose, as all practical bee-keepers, viz., that a ten-and-sixpenny "Gerster" is an unbearably drawling way of rendering wax in any quantity.

"Another" has sold half-pounds and pounds this season, and one lump weighing 4 lb. 6½ oz. At the same time ounces are very taking, especially when mistaken for toffy by small boys and left with a dental impress that would gratify Sherlock Holmes on business bent. To mould the wax, put the pure wax in a jug, the jug in a saucepan of water, the saucepan on your stove, and when the wax is

melted pour into *wetted* moulds. "Another's" egg cups *do* hold more than an ounce, but note this, which page 433 omits, he is very careful by the aid of knife and letter weights to pare off the extra ¼ oz. before selling at twopence, for three reasons. (*a*) Lest one twopenny customer should grumble because another twopenny customer may happen to get more. (*b*) Because with wholesale price at 1s. 9d. or 2s. per lb. for wax in any shape and size, and retail price at 2d. per oz., all the extra labour of egg-cup moulding would not pay at all if half or all the ounces weighed an ounce and a quarter. (*c*) Because nobody would buy pound pieces if by ordering the same amount in ounces they could get 20 oz. to the pound.—F. GORDON, *Low Grove, Keswick.*

P.S.—*Improvement for Next Season.*—Put the empty mould upon one scale and the weight on the other, and stop pouring when the weight is reached.

[Being unavoidably absent from the Conversazione referred to, we were unable to help our reporter as usual in giving the names of speakers and also in making the substance of what was said quite so correct as we usually try to do. We are therefore glad to have Mr. Gordon's views stated by himself in print as being useful for all. The fact of other "corrections" being necessary in this issue regarding the report of the meeting at Jermyn-street may be in some measure accounted for in the same way.—EDS.]

DEALING WITH FOUL BROOD.

MEASURING NAPHTHOL BETA.

[3445.] The valuable information relating to the remedy for foul brood given in your issue of October 6 last may appear a little obscure to some bee-keepers through being expressed according to the metrical system. Dr. Lutel says, "the dose should be 0 33 grammes to 1,000 of liquid." Subject to your correction, I would suggest the following recipe for syrup fortified with naphthol beta approximately according to the above suggestion :—

Water	...	...	1 quart
Naphthol beta	...	...	7 grains
Sugar	...	...	3 lb.
Vinegar	...	..	1 drachm
Salt	...	...	1 drachm

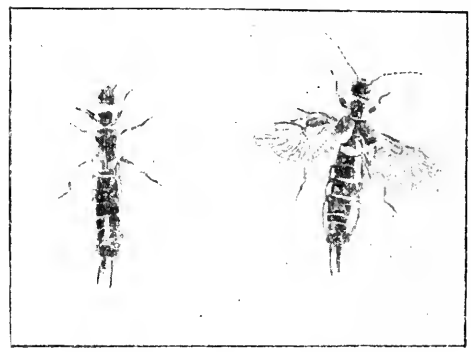
A. G. C., *St. Neots, November* 11.

EARWIGS.

CAN THEY BE KEPT OUT OF HIVES?

[3446.] In the BEE JOURNAL of October 27 Mr. John Macbeth, on page 425, mentions standing his hives on inverted bottles, partly buried in the ground, to prevent the ingress of earwigs. Your correspondent, probably, is unaware that earwigs have wings ; and very beautiful wings they are, but rarely seen, as they are kept folded up like a Japanese fan beneath the tiny wing-cases which cover the back of the thorax.

I enclose a photograph—the latest addition to my collection of lantern slides—illustrating this, and showing two earwigs, one as usually seen, the other with wings extended.—PERCY SHARP (First-class Expert), *Brant Broughton, November* 7.



Earwigs.—Photo from Nature.

[So general is the impression among ordinary bee-keepers—and gardeners, too, for that matter—that earwigs are not winged insects, that we are very pleased to reproduce above Dr. Sharp's capital photo from life showing the wings expanded.—EDS.]

LATE HONEY—WAX EXTRACTING.

INFORMATION WANTED.

[3447.] Your correspondent "J. G." (3,428, p. 436) reports the gathering of honey and pollen on October 17, and is curious to know whence the bees obtained them. My bees also have been fairly busy throughout October, and are so even now on November 13. Their outside activity, the directness of their flight from the hives in one particular direction, their evidence on alighting, these are conclusive as showing that honey is coming in, and coming in from just one source. Nor have I outside signs alone to depend upon. On the 1st inst. I had occasion to transfer the bees from a sadly-neglected hive which I had recently bought. Several of the combs in this hive contained newly-gathered honey—not less than 4 to 5 lb. This honey and the lemon-colour pollen of which "J. G." speaks are, without doubt, gathered from ivy. *Useful Hint.*—Grow ivy on your walls and on your trees, and also, if you can manage it, on those of your neighbours.

Wax from Old Combs.—From the hive referred to above and a similar one I took out eight old combs. How old they were I cannot say, but I know that they could not have been less than five years old, and might have been as many as twelve. I had intended destroying

the lot, considering them worthless for melting, but seeing that Mr. Ford (p. 433) had had such good results from the treatment of old combs, I determined to try whether I could not do as well. The combs were broken up and placed to soak in water for a few days. After this they were rinsed several times and then thoroughly boiled in plenty of water. The result of my labour was 10 oz. of very dark wax. I don't think I could have extracted more thoroughly if I had reduced the combs into the mealy condition which Mr. Ford considers essential, for, on pouring out the still hot débris from the strainer on to a sheet of paper, not a particle of wax was to be seen either on the paper or in the rubbish. These combs were undoubtedly older than those of Mr. Ford, and, besides, were, if one may judge by the large proportion of drone comb, built from starters only, and not from full sheets of foundation.

Information Wanted.—1st. Will some one be good enough to tell me how many cubic inches there are in a pound of wax? 2nd. If there are any bee-keepers who have hives, the covers of which are destitute of ventilation, will they be good enough to say whether such hives are, in their experience, as free from damp as those which are ventilated? My experience is that the ventilated hive has no advantage over the non-ventilated in this respect.—J. Morgan, *Upper Boat, Pontypridd, November* 13.

TREATMENT OF FOUL BROOD AND ANTI-TOXIN.

[3448.] One always welcomes the idea of alighting upon and following up the discovery of some certain and rapid cure for, or preventive of, foul brood; and, nearly three years ago, I had some slight correspondence with Prof. Watson Cheyne, F.R.S., who, with the late Mr. Cheshire, worked largely upon this subject, and fully described *B. Alvei.* The question of an anti-toxin cropped up then, and though I should be the last to wish to add to the difficulties in the way of combating the enemy, or to throw cold water on any scheme advanced which might in time lead to the solving of the difficulties in question, yet I would like to point out that were the anti-toxin produced, it would then be necessary to administer it by hypodermic injection, as it would be useless giving it in food.

Anti-toxin administered in food would be simply destroyed by the action of the gastric juices. To be efficient it must be introduced direct to the blood or lymphatics. This, I fear, in the case of innumerable bee larvæ, is "a large order." Dr. Farrant's lucid description of the method of production of an anti-toxin, together with the method of administration mentioned above, puts this aspect of the matter in a nutshell. I am only afraid that there is an "IF," which must be printed in big capitals.—Percy Sharp, *Brant, Broughton.*

ROSEMARY AS A BEE-PLANT.

"FOLK LORE" ON THE SUBJECT.

[3449.] In connection with the subject of rosemary as a good plant for bee-pasture, and the folk lore current in regard to the possession of this shrub in one's garden, it appears that the presence of a plant of rosemary on the premises is considered proof positive that a man's wife is, so to speak, "best man"—*i.e*, the woman rules. Mr. Edwin Young, at the recent conversazione at Jermyn-street, confessed that he had rosemary in his garden, but, in order that the current superstition might not affect his domestic status, he explained that the rosemary in question was *planted by the previous tenant!* This clever attempt to escape from the suspicion that attaches to a man who has rosemary growing on his ground reminds me of the case of a lady at the West End discovering a handsome young guardsman in the coal cellar. She naturally requested the lady downstairs to render "an account" of the circumstance. The mistress received a ready and convincing explanation: "Please, ma'am, he was left by the last cook!"—T., *November* 5.

BEES IN LANCASHIRE.

A BEGINNER'S FIRST SEASON REPORT.

[3450.] Bees have done very well with me this season, my two stocks having increased to three, and realised a little over three pounds (£3) for honey, besides making a few presents to friends.

Being only a beginner at the craft, I have been at some considerable expense for appliances, but I think I can show a very good balance-sheet notwithstanding.

I started last season with one stock, which cost me 31s. On Jubilee-day I had a splendid swarm, which I sold to a neighbour for 35s.; and eleven days after a cast came away, which at the present time is almost as strong as the parent stock.

I did not take any honey, but they stored sufficient to keep them through the winter, with the aid of a cake or two of candy in the spring.

I make my own hives, which do not cost me more than 5s. each; so I think you will acknowledge that I have been tolerably successful from a financial point of view at any rate.—W. B. L., *Preston, November* 7.

AN ACTIVE QUEEN.

[3451.] Taking advantage of the three lovely days we had last week, I took a peep into one long "Wells" hive containing four small lots of bees on five or six combs apiece, to satisfy myself that all were right for wintering. I looked to see if there were bees enough to form one continuous cluster, and it was so. The whole length of frames seemed full. But to my point. Those of one of the end stocks I lifted one by one, and found, to

my astonishment, brood!—a large patch of it in one frame. Nor did the queen seem to have thought of striking work just yet, for a batch of brood had just hatched out, and she had again filled up the vacant cells with eggs. These bees were a lot driven about September 30. Last feeding—somewhat irregular—ceased about October 15. No stimulant of any kind after that. Date of inspection was November 9

How many brethren of the craft can boast of, or confess to, a queen laying on November 9? (Of course, nobody must look.) On my part it's a boast, not a confession, for "Please, sir, 'twarn't *my* fault." I shall watch that queen with interest in spring. At sight of eggs my heart was glad. Tell me not I should be sad.—BUZZ, *Millbeck, Keswick.*

FOREIGN BEES IN THE NORTH.

[3452.] From my limited experience I should favour foreigners here. My Ligurian stock gave me the largest surplus, twelve shallow frames full and twenty-one sections half completed; I believe but for swarming, the Carniolans would have exceeded this. As it was, the two nuclei built into stocks gave me 55 lb.; and the Ligurians were sent to the moors on August 22 quite light, and came back filled up in the brood-chamber. Probably hybrids would exceed the pure races. I shall try next season.—ALPHA, *Hull, November* 12.

FOUL BROOD IN YORKS.

[3453.] It is to be feared that foul brood is very widely spread in the East Riding of our county. I see it is reported as raging near Beverley, and that you have received infected comb from Filey, and I have found it in my own neighbourhood. I fear the nasty old skeps are reeking with it; but the owners—some at least—look incredulous at the mention of foul brood, and say they never heard of it. I quite anticipate an alarming outbreak in the spring; as a precaution my driven lots have been fed with medicated syrup, and all will have medicated candy later on.—ALPHA, *Hull.*

REMOVING SURPLUS.

AN AMERICAN METHOD.

A year or so ago I told you something about how Mr. W. L. Coggshall saves time by kicking his hive-supers and hive-bodies off the brood-nest. At two or three of the conventions where I have told of this acrobatic feat, there have been quite a number of questions asked. One man incredulously asked, "Why, do you mean he actually kicks the hive-body off from the brood nest?" He seemed to think that I was either stretching the truth or that I meant Mr. Coggshall did it metaphorically. Well, to show that he literally and truly does that thing, I take pleasure in presenting an engraving in next column.

You have all heard about "kickers," but here is a man who has done another kind of kicking—kicked off more hive-supers, I will venture to say, than any man living; and he does it in such a way as not to rack the hive-body nor to make the bees more than stinging cross. But what cares he if it *does* stir the bees up a little? Any man who would dare

to throw a whole hive of live mad bees upon a charging bull would not be afraid to take a few stings himself. The above drawing, showing Coggshall "removing" his supers, is taken from an instantaneous photo. Unfortunately, the kodaker was so badly scared that he did not get a very steady picture—at least not clear enough to answer for a half-tone reproduction; but he succeeded in procuring a picture from which our artist could make a pen-drawing. I told him to follow the picture faithfully, even giving the gleam of the eyes of the somewhat nervous "kodaker." I have seen the same gleam myself, and know how it feels to have the hot breath and a pair of wicked eyes, almost, as it were, in one's face. Yes, I have been there exactly, but I did not have the bees to help me do the vanquishing.—*Gleanings (American).*

METEOROLOGICAL

OBSERVATIONS TAKEN AT DUDDINGTON, STAMFORD, NORTHANTS, FOR THE WEEK ENDING NOV. 12, 1898.

1898.	Bar. in.	Tem. 9 am deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in.
Nov. 6....	30·02‡	36·8	55	35	20	45·0	·02
,, 7....	30·01	47·8	53	36	17	44·5	—
,, 8....	29·92	46·0	56	41	15	48·5	—
,, 9....	30·18	48·2	51	39	12	45·0	*·02
,, 10....	30·07	47·2	50	42	8	46·0	†·02
,, 11....	30·03	47·0	51	43	8	47·0	†·02
,, 12....	29·80‡	47·3	52	45	7	48·5	†·02
Means	30·00‡	45·7	52·6	40·1	12·4	46·4	‡·10

* Fog and drizzle. † Fog. ‡ Total.

Mean vapour tension, 0·286 in.; mean relative humidity, 93 per cent.; mean temp. of the dew point,

43·8. The rainfall, viz, ·10 in., =2,262·30 gallons, or 10·10 tons to the acre, or 8 oz. to the square foot. For the week ending November 5, the mean temp., viz., 49°·0 (not 48°·9 as sent in error), is +5°·0, and the rainfall viz., ·29 in.. −·31 in. The rainfall, January 2 to November 5, viz., 15·50 in., is −6·46 in. In the B.B.J. for November 10 (the rainfall), "January 2 to October 22, viz., 15·21 in., is −6·15 in.," should have read "January 2 to October 29, viz, 15·21 in., is −6·15 in.;" and, "and that January 1 to October 30, viz., 6·28 in., −6·23 in." should have read "and that January 1 to October 31, viz., 15·28 in., −6·23 in." I very much regret, and apologise for, the slips.

P.S.—Honeysuckle in bloom on the 9th.

RAINFALL.

Rainfall measured at Duddington, Stamford, Northants, at 9·0 a.m. daily, January 2 to October 29, 1898 :—

1898.	Rainfall, in.	Average, in.	Difference from Average, in.
Jan. 2-29	·81	1·79	− ·98
Jan. 30-Feb. 26....	·57	1·66	−1·09
Feb. 27-Mar. 26 ..	1·27	1·27	average
Mar. 27-April 30 ..	2·10	1·98	+ ·12
May 1-28	2·28	1·92	+ ·36
May 29-June 25 ..	1·04	1·89	− ·85
June 26-July 30 ..	1·20	2·83	−1·63
July 31-Aug. 27 ..	2·83	2·33	+ ·50
Aug. 28-Oct. 1	·50	3·00	−2·50
Oct. 2-29	2·61	2·69	− ·08
Total	15·21	21·36	−6·15

THE MONTH'S WEATHER REPORT.

RESULTS OF METEOROLOGICAL OBSERVATIONS TAKEN AT DUDDINGTON, NEAR STAMFORD, NORTHANTS, OCTOBER, 1898.

Barometer.

Highest, 30·26 in., on the 4th.
Lowest, 28·91 in., on the 18th.
Range, 1·35 in.
Average height, 29 78 in.

Thermometers.

Highest Max. Shade Tem., 68 deg., on the 2nd and 3rd.
Lowest Max. Shade Temp., 52 deg, on the 15th.
Highest Min. Shade Temp, 54 deg., on the 5th and 6th.
Lowest Min. Shade Temp., 34 deg., on the 1st.
Range, 34 deg.
Greatest Daily Range, 32 deg., on the 1st and 3rd.
Least Daily Range, 3 deg., on the 18th.
Highest Shade Temp. at 9 a.m., 60·2 deg., on the 22nd.
Lowest Shade Temp. at 9 a.m., 45·9 deg., on the 1st.
Highest Mean Daily Temp., 59·3 deg., on the 22nd.
Lowest Mean Daily Temp., 47·6 deg., on the 9th.
Mean of Highest Daily Readings, 57·5.
Mean of Lowest Daily Readings, 45·9 deg.
Mean of Daily Range of Temp., 11·5 deg.
Mean Temp. for the Month, 51·7 deg.
Difference from Average Mean Temp., +3·2 deg.
Mean of Dry Bulb Readings, 51·6 deg.
Meau of Wet Bulb Readings, 49·4 deg.
Mean Vapour Tension, 0·326 in.
Mean Relative Humidity, 83 per cent.
Mean Temp. of the Dew Point, 46·8 deg.

Rainfall.

Number of Days on which ·01 in. or more fell, 15.
Greatest Fall in Twenty-four Hours, 0·54 in., on the 16th.
Total Fall in the Month, 2·63 in.
Difference from Average, −0·35 in.
Total Fall January 1 to October 31, 15·28 in.
Difference from the Average, −6·23 in.

FRED. COVENTRY.

Echoes from the Hives.

A "Foreign Echo." Villa Rominger, Tübingen, Würtemberg, Germany, November 11, 1898.—The honey harvest about here has been a very scanty one. Honey taken in the spring or early summer is very light, has a large grain, but is of a very good flavour, whilst the aroma leaves "almost" nothing to be desired. However, honey taken later is dark and possesses no trace of honey-dew this year. Honey, quite irrespective of quality, fetches from 1s. 1d. to 1s. 2½d. a lb. One wishes for the good old days in England in this respect!—R. HAMLYN-HARRIS, F.E.S.

Queries and Replies.

[2126.] *Driving and Wintering Bees.* — I should be glad to know the latest date at which it is considered "worth the candle" to drive bees from cottagers' skeps? So many skeppists seem to believe in the adage "Where ignorance is bliss, &c.," that I cannot get them to consent to disturb their bees till end of September or later. I "took up" four skeps on October 7, and four others October 17. These have fed well, and have been very busy taking in pollen, so I conclude they will winter all right. I much prefer driving bees into light boxes holding five or six frames, with quilt and frames fastened with two laths, and a cheese-cloth to tie up in for transport. You can then put them *in situ* and feed without further disturbance or risk, and independent of the weather. 2. I notice you do not approve of keeping bees in buildings. Does this apply to thinly-boarded rough sheds with pantile roofs? 3. Also, in your reply to No. 2116, page 407, you say you "cannot tolerate hive sides higher than surplus chambers." I conclude this does not in any way refer to hives with movable outer cases. Am I right? I have no opportunity of seeing shows or other makers' hives. I am a village joiner and am very deaf, but by the help of B.B.J. and the "Guide Book" I have done very well.

But I often wish you would give the "why and wherefore" of all that is said in the book. It would save me many an experiment. Still, I know it is trying to have to answer elementary questions, but such answers often tell me just what I want to know. I have now twenty-seven strong colonies of bees in addition to six strong nuclei. I commenced bee-keeping in real earnest three and a half years ago with a stray swarm and one purchased stock. Whether my bees are more gentle now than at first I know not; but they do not sting so much or so severely. Apropos of bee stings, no doubt most bee-keepers are gardeners, and occasionally get stung by nettles. Now the best antidote for nettle stings is to say "Bother the nettles!" go on with your weeding, and take no further notice; don't scratch the place on any account, nor yet rub it. You will be surprised how little a bee-sting smarts if this way dealt with. —A. H., *North Bucks.*

REPLY.—It is impossible to give the latest date when bees may be driven with a fair chance of success—that would suit all seasons. Take the present year, for instance. The weather has been so genial until quite late in the autumn this year that bees driven within the last fortnight are doing very well indeed in some parts if warmly packed and fed with warm syrup. It therefore becomes a question of using one's own intelligence in deciding how late bees may be driven. 2. We should like to know what reference of ours you have in mind regarding bees in buildings before replying. 3. It lessens the objection to high sides for hives very considerably if the outer-cases are removable, but does not altogether do away with them.

[2127.] *Transferring Bees to Frame Hives* —I have two lots of driven bees in straw skeps, and being quite a beginner with bees I write to ask for a little information as to when to shift them into bar-framed hives?—G. H., *Dudbridge, Glos., November 7.*

REPLY.—Presupposing that the driven bees have already established themselves in the skeps (a point we are left to guess at), they would be best left where they are till spring, say about April next, when, if the weather is warm, they may be transferred as advised on page 138 of "Guide Book," or, if preferred, allowed to transfer themselves by placing the skep above the top bars of frame-hive early in April.

[2128.] *Rearing Queens — Making the "W.B.C." Hive.*—Would you kindly answer me the following questions:—1. Is the cross of bees pure Italian mated with English drones supposed to be the best workers? 2. If so, would the following plan answer:—In the spring, when drones are flying, place an empty hive with foundation and the frame with eggs from a pure Italian hive in the position of the hives with English bees. 3. I intend to make some "W.B.C." hives this winter from the description and drawings of Mr. Peebles, which are, as he says, "as plain as A B C," with the exception of the hinged piece at top of body box. Of what service is this? It does not keep the bees from getting between the inner and outer case, does it? From your note on page 446 of B.B.J. I understand that a loose piece of wood is used between the inner and outer case during summer, and removed in winter. Is this not so? I have never seen this hive, and know very little about bees, so trust you will excuse me if I may be asking foolish questions.—SIMON SIMPLE.

REPLY.—1. Many bee-keepers think them best. 2. The plan you propose to follow will do very well if properly carried out. 3. The piece referred to is merely used to cover the space between the lugs of the frames, and has nothing to do with keeping the bees from entering the outer case. The strip of wood for that purpose is at the bottom of body box.

[2129.] *Working for Surplus Honey.*—Experience teaches that the chief source of surplus honey all round this part comes from white clover, and my object being to obtain what surplus I can, I am tempted to ask if you deem it a wise plan to encourage the bees to breed early in the spring and so swarm and cast early—in May, if possible—then hive them on full sheets of foundation and place them on each side of the old stock? Then feed gently till each hive is full of brood, and the honey from the source mentioned begins to come in, and then join up all three lots together again and utilise the spare young queen elsewhere. 1. Should I be likely to get a larger quantity by so doing than if I gave the bees room in advance, and so stop swarming? 2. Should it make much difference as regards stimulating in spring where plenty of gorse abounds? 3. What is the colour and quality of such honey? In response to your request in reply to my query last week (2125, page 448), I am also sending by same post the twin queen cells, when your opinion will be esteemed by—BLACKBROOK, *Burton.*

REPLY.—1. We should try to prevent swarming, and work the stock for extracted honey. If, however, the bees do swarm, return them, and give additional room for comb-building. If the swarm was an early one, it might be worked advantageously as additional stock. 2. No. 3. Gorse honey is never counted on for surplus. 3. Queen-cells sent are merely rudimentary, and have never been used.

ACCURACY.

ESSENTIAL TO THE BEE-KEEPER'S SUCCESS.

What I shall say in this paper is largely for the benefit of beginners, or those of small experience in keeping bees, and something that they might not otherwise learn except in that school which is proverbially expensive. There

may be some who are older that can read it with benefit.

Few things, including bee stings, are more provoking or try the temper more than a set of hives which vary in size, or the different parts are ill-fitting, or poorly made.

The large number of manufacturers who make a speciality of making bee-keepers' supplies renders it very much easier to get well made hives and other fixtures than was the case twenty years ago. Still, there are many who do not care to pay large freight bills, and who have mills near at hand doing work of a similar character, and would prefer to have their work done near at home. To such let me say that before making a large number of hives, make a careful study of hives and find out accurately just what you want, or is best adapted to your work or business. If you propose to produce extracted honey, your hives may be quite different from what would be required for comb honey. Make out a bill of pieces for hives and fixtures. Make out an agreement that each and every piece shall be got out accurately from well-seasoned lumber without the variation of an eighth of an inch; one-sixteenth of an inch would be better. Then put them together so that every part will fit accurately with no loose joints or leaky roofs. Let the frames be made square, not even a *little* diamond shape, or the bees may stick one end to the end of the hive with propolis, and at the other end build a "bit" of comb between. See that the space between the top of the frames and the honey board is just right, and will stay so. If the top bars are too light they may sag, and thus while the space is one-fourth inch at the ends, it may be one-half inch in the middle when the frames are filled with honey. See that just the right space is given at the ends of frames; for, if too much is given, combs may be built between the ends of the frames and the hive; and, if too little, the bees will fill up that little with propolis. The same rule applies to the space under the frames. I had one lot of hives made where the brood-chamber shrank so as to let the frames to many of them rest on the bottom board. Not only must the frames be of the right size, but so arranged as to space at exactly the right distance apart. I have sometimes looked over bees for others and found the frames anywhere from one and one-fourth to two inches apart. The nearer the brood combs can come together and leave sufficient "bee-space" between them, the better can the bees economise their heat in spring time, and advance their brood.

When all is completed the foundation must be put into the centre of the frames and the foundation drawn out so as to remain inside the frames. When the hives are placed upon the stand where they are to remain, see that they are levelled up accurately, and not leave them looking too much like the head stones in some cemeteries, pointing to every star in the heavens. The bees, with only their antennæ for compass and square, will build their cells with the greatest accuracy, and without plumb-line or level will build their combs exactly downward. Shall we by a little carelessness allow the hives to stand tilted a little this way or that so the combs will sag or be built partly in the frame and partly outside, and thus be unfitted to exchange with some other comb that is perhaps out of the frame in the other side?

If we turn to the surplus department we shall find that even greater accuracy is demanded than in the brood chamber of the hive. If our clamp or section-holder is 17 in. inside and we order our sections cut 4¼ exactly and we find when put together they are a 1-32nd of an inch over we shall be in trouble. Or if they are cut exactly right and then set up the least bit diamond shape, the same trouble comes in when we place four of them end to end—they will not go into our clamp. Again, if not quite large enough, or 1-32nd of an inch too small, when four are put together there may be left a space of one-eighth of an inch to be filled by propolis, very much to our discomfort, and the appearance of the sections when ready for market.

The sections should also be of exactly the right width and quite smooth. I have found them to vary so much as to make it very difficult to get in the full number; or, again, so they would not fill the space in the clamp. Where honey is sent to market in paper boxes, or cartons as they are called, it is very desirable that they, too, should fit accurately. One year a new firm begged my trade in paper boxes, offering to make them much cheaper than I had been paying. I gave them two or three orders of several thousand, and when received, notwithstanding they had the exact size of the section, not one lot was of the right size. One lot was so small as to make it quite impossible to get my sections into a large share of them; while another lot was so large as to make it almost impossible to get them into my packing-cases.

Thus it will be readily seen that where we purchase our sections of one firm, our paper boxes of another, and our packing cases of a third, accuracy is a prime factor in our success, in getting our honey to market in good shape.

Not only in the matter of making hives and surplus arrangements is it necessary to be accurate, but in the management of our bees will it be found equally so. How many times I have seen it stated in print that bees would not rear a queen from brood four days old, I do not know; but I do know that I have found them doing it many times; very much to my disadvantage and theirs too. Again it has been said that they would not hatch out a young queen in less than ten days after being deprived of their queen, and without brood in queen cells, but I have found out that they *will* sometimes do so to my sorrow.

And now, in conclusion, let me say that we should not only make our hives and sections,

our management and queen rearing accurate, but let us learn to observe closely and think accurately and *clearly* if we can.—J. E. CRANE, *Bee-Keepers' Review, America.*

BEE-KEEPING.

BY A VILLAGE CLERGYMAN.

Many country parsons employ spare time by converting a hobby into a remunerative business. The writer knows more than one underpaid curate who keeps bees for pleasure and profit. A noticeable specimen owns no less than twenty hives, and keeps himself in clothes by bee-farming. He goes about his way in a scientific and business-like plan ; the study of the industrious insects has entranced him for years, and the honey yielded by his winged servants is reported to possess a flavour equalled by none. Living on the borders of a moor where the heather is thick and fragrant, he naturally has an advantage over many brothers of the cloth, who try to supplement their income by dealing in nectar and wax. Heather-honey owns a flavour that pleases the palate of the people—hence it is worth more by fourpence a pound than the ordinary sort.

The wife of a hard-worked pastoral parson helps to swell the family purse by rearing poultry, but finds honey-seeking bees less difficult to manage and more remunerative. Her hives are superintended by herself ; she gathers the wax and honey after stupefying the insects with a tobacco-tube, puffed by her own lips ; and she is alone on the war-path when a swarm is expected. Being able to dispose of the sweet fluid and wax among her neighbours, she loses no profit by posting her wares to the markets. In this case, a large moor, ling and heather-covered, with honeysuckle hedges and banks of wild thyme in the immediate vicinity, greatly assist her ; the honey she bottles is of the highest quality ; and a local store purchases every particle of wax, clamouring for more of same texture. The vicar of a Yorkshire parish shocked his brethren by securing a "swarm" just before Sunday morning service. His explanation was ingenious : he said that if the bees arranged to swarm on the Sabbath it was his duty, as a student of Nature, to hive them. He sold his honey all the same. Our friend under discussion owned twenty hives ; but the locality was a flowery one, and afforded happy hunting-grounds for his thousands of buzzing benefactors.

Another brother of the cloth not only made money by bee-keeping, but likewise invented patent hives and comb-shields for the benefit of honey harvesters. Packing his products in air-tight vases, he sends the luxurious sweets to London, Paris, and other great cities. Two farmer sons in Ayr assist him in his labours ; they have clusters of hives on the verge of the moors ; and, though not admitting that bee-keeping will provide them with luxuries, they admit the employment is profitable, as it is easy if systematically followed.

Clergymen's daughters often pose as mistresses of the bee-hives. Residing near extensive clover meadows in Cheshire, a trio of sisters—daughters of a well-known clergyman—supply the market with honey which, for delicacy of flavour, is unsurpassed. So familiar are these ladfes with their miniature servants, that they fearlessly allow them to alight on their hands ; one or two pet workers having names by which they are known to members of the family. During a hard winter, when the poor parishioners were in need of the necessities of life, they recorded with pride that the bee-money provided soup, bread, and tea to several hundreds of the most deserving families.—(*Communicated.*)

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

T. P. (Sheffield).—The comb sent is so badly affected with foul brood that treatment for cure is out of the question. You might allow the bees to remain where they are as the robbing season is now past, but they should (if alive) be got off the combs of all three hives early in spring and united into one lot, giving them built out healthy combs if such are available, and feeding with medicated syrup, in a clean hive.

F. J. C. L. (Guernsey).—*Syrup for Bee-food.*—The syrup sent is unsuitable for feeding bees with in autumn. Too much water has been added. We also think the sugar used must be raw or unrefined, which is not the proper material for autumn feediug.

J. H. (Holywood).—*Feeding Bees.*—Do not disturb the bees now more than necessary, and if they have plenty of food leave well alone, as you cannot at this season get honey sealed. If there is any doubt about sufficiency of stores, place a cake of candy on top at once.

J. W. W. (Clapton).—*Packing Double-walled Hives.*—We do not know what the material you name is. For ourselves, we consider packing between the double-walls of hives unnecessary.

J. W. B. (Bucks.).—Brood in comb is chilled only ; not foul. No disease at all in it.

R. H. G. (Durham).—Comb is affected with foul brood of old standing.

A. SCHOFIELD (Southport).—*Race of Bees.*—Bee sent is the common black or English variety.

Editorial, Notices, &c.

SENDING ROUND THE HAT!

PRIZE FUND FOR THE "ROYAL" OF 1899.

When the master of the hounds needs to strengthen the exchequer of the hunt he sends round the "hat" in the field, and as every man's contribution is open to view—and cannot pop out of sight in an instant like an ecclesiastical threepenny bit—the sum total on those occasions usually more than answers expectation.

Owing to the unfortunate absence of our estimable chairman, Mr. Cowan, I am in much the same position as the master of the hunt, whom necessity compels to send round the hat. The prizes at the "Royal" shows have, for some years past, been desperately below high-water mark, until I feel—and, indeed the whole council feel with me—that it must be so no longer.

The show in June next will be almost a metropolitan one in its nearness to London, for Maidstone is but eighteen miles away. We feel, therefore, more than usual anxiety about the prize list of the "Royal" schedule, seeing that *it must go to press in a few days*. We shall be ashamed if we cannot issue in every sense what I may term a truly "Royal" list of prizes, that is to say, not only many *more in number*, but every prize largely increased in value.

I have, therefore, no alternative but to send round the hat—or rather, ask the editors of the B. B. J. to do it for me. I feel that it will not be in vain. I appeal to every bee-keeper who has that precious quality, public spirit (and most of the fraternity possess it in greater or less degree) to send without delay, what he or she can comfortably afford under cover to Editors, BRITISH BEE JOURNAL, 17, King William-street, Strand, W.C.

Quis dat qui cito dat (he gives twice who gives quickly) is peculiarly the motto for the present occasion because the schedule *must* go to press within a few days. I need not say more, but just add that this is addressed as much to women as to men bee-keepers. In every previous public appeal, notably the "Colam" testimonial—also the Mansion House presentation, which did much for bee-keeping—the ladies responded splendidly.—E. D. TILL, Vice-Chairman, B.B.K.A.

IRISH BEE-KEEPERS' ASSOCIATION.

The Committee met on 17th inst., Rev. J. G. Digges in the chair. A circular letter drawn up by a Sub-Committee was approved, and ordered to be sent to all members, warning them to use every possible precaution against the spread of foul brood, and in particular not to sell or buy bees or second-hand appliances unless certified by an expert to be free from disease. The secretary reported that he had sent to the Congested Districts' Board a copy of the resolution passed at the last meeting, urging them to promote legislation with a view to the eradication of this disease, and had been informed that the matter would be brought before the Board.

A NOVEMBER DAY.

(*Concluded from page* 452.)

There, however, it is not all wood and thicket, for in threading one's way through the mazes of bramble and briar and willow herb, you come unexpectedly upon the most lovely lawns—luxurious, enchanting, limpid green oases, delicious to the eye and foot (and flesh) after that tangly wilderness. There they lie, like emeralds dropped into the woodland, unseen a dozen feet away, unseen by the cyclists who drift along the white road yonder, unseen by pedestrians—town tourists who come hither—by tramps, numerous along an adjoining famous highway, by ale and pipe loving villagers; unseen and unknown by all these; but often seen—and, ah! how we love them—by the village children—lads and lasses, fair haired and blue eyed young Celts and Anglo-Saxons, whose blue eyes sparkle with a brighter blueness when they burst in June into these wild lawns, whose velvet surface now appears red, so profuse are the berries of the wild strawberry; or, when out blackberrying or bilberrying, they lose their way in the thickets of bracken, and, suddenly coming into this open space, think they are in Heaven! Oh, how many times, when a boy, have I in my rambles stepped into that delicious lawn? so soft, so springy, so velvety (being mown every day by rabbits), so flowery with the blossoms of prunella and orchis and tormentil, and paused unconsciously and breathed more gently, under the spell of its peaceful beauty. Oh, how beautiful it is! I hope the owner—a noble lord—will never cut down the wood, or sell, or let on lease the land; I hope there never will be a workhouse or a prison, or an inn erected there. I hope the pheasants and the rabbits, the blackbirds and the blue-tits, the robin who sings there so sweetly, the magpies who chatter so unceasingly, will—next to the noble lord—hold undisputed possession for another thousand years! The larches and pine and birch woods and bracken are like Scotland, and the lawns Italy or Greece. I think I like Scotland best, with its dark pines and tall and graceful larches. The silver birch is called the "Lady of the Woods," and so, I think, the larch may be called the maiden of the mountains. How tall, how straight, how slender, and yet how strong, are these glorious larch girls. On the steepest slopes their bodies rise with an arrowy straightness, a colossal rigidity, that commands the intensest admiration. Oh, how lovely they are, veiled in their misty and bridal drapery; their heads

always bent as if with a consciousness of their own queenly beauty. How pretty the pink cones that gleam like jewels in their tossed and waving hair. How softly the wind sings, as he caresses their lovelocks in the summer evenings, when the stars hang like diamonds to their sweeping branches, and the sweetest of all odours that are brewed by flower or foliage drifts out into the wide plains beneath them. Oh, Englishmen and Englishwomen, why are your feet so deeply rooted into the mud of modern cities, your minds so firmly fixed to modern custom and habit? Away from that fog, that dust, that din, that despair, that lurks, dragon like, in your courts and alleys, ah! and in your main thoroughfares and palatial dwellings. Away from that mad rush and roar of London, and come back to these sweet abodes that are awaiting you amongst these pine trees in this vast territory! What giant holds you, what magnet draws you, ye would-be bee-keepers and lovers of the country? Come hither and plank down your bee-hives, and plant your apple trees, and sow your Limnanthes Douglasii! The pine trees. What shall I say of them? What language shall I use to describe that army, clad in black armour, who guard for ever our hill-side? Alas! I do not know the German or Welsh language. I turn in my dilemma to Ruskin. What does our dear master in word painting say of them? Let us turn to his book.

"The pine. Magnificent! Nay, sometimes almost terrible. Other trees, tufting crag or hill, yield to the form and sway of the ground, clothe it with soft compliance, are partly its subjects, partly its flatterers, partly its comforters. But the pine rises in serene resistance, self-contained; nor can I ever without awe stay long under a great Alpine cliff, far from all house or work of men, looking up to its companies of pines as they stand on the inaccessible juts and perilous ledges of the enormous wall, in quiet multitudes, each like the shadow of the one beside it—upright, fixed, spectral, as troops of ghosts standing on the walls of Hades; not knowing each other, dumb for ever. You cannot reach them, cannot cry to them; those trees never heard human voice; they are far above all sound but of the winds. No foot ever stirred fallen leaf of theirs. All comfortless they stand, between the two eternities of the Vacancy and the Rock; yet with such iron will that the rock itself looks bent and shattered beside them—fragile, weak, inconsistent, compared to their dark energy of delicate life, and monotony of enchanted pride—unnumbered, unconquerable.

"Then note farther their perfectness. The impression on most people's minds must have been received more from pictures than reality, so far as I can judge, so ragged they think the pine; whereas its chief character in health is green and full roundness. It stands compact, like one of its own cones, slightly curved on its sides, finished and quaint as a carved tree in an Elizabethan garden; and, instead of being wild in expression, forms the softest of all forest scenery, for other trees show their trunks and twisting boughs; but the pine, growing either in luxuriant masses or in happy isolation, allows no branch to be seen. Summit behind summit rise its pyramidal ranges, or down to the very grass sweep the circlets of its boughs; so that there is nothing but green cone and green carpet. Nor is it only softer, but in one sense more cheerful than other foliage, for it casts only a pyramidal shadow. Lowland forest arches overhead, and chequers the ground with darkness, but the pine, growing in scattered groups, leaves the glades between emerald bright. Its gloom is all its own; narrowing into the sky, it lets the sunshine strike down to the dew; and if ever a superstitious feeling comes over me among the pine glades, it is never tainted with the old German forest fear, but it is only a more solemn tone of the fairy enchantment that haunts our English meadows; so that I have always called the prettiest pine-glade in Chamouni 'Fairie's Hollow.' It is in the glen beneath the steep ascent above Pont Pelissier, and may be reached by a little winding path which goes down from the top of the hill—being, indeed, not truly a glen, but a broad ledge of moss and turf, leaning in a formidable precipice (which, however, the gentle branches hide) over the Arve. An almost isolated rock promontory, many-coloured, rises at the end of it. On the other side it is bordered by cliffs, from which a little cascade falls, literally down among the pines, for it is so light, shaking itself into mere showers of seed-pearl in the sun, that the pines don't know it from mist, and grow through it without minding. Underneath there is only the mossy silence; and above, for ever, the snow of the nameless *aiguille*.

"Other trees rise against the sky in dots and knots, but this in fringes. You never see the edges of it, so subtle are they; and for this reason—it alone of trees, so far as I know, is capable of the fiery change which has been noticed by Shakespeare. When the sun rises behind a ridge crested with pine, provided the ridge be at a distance of about two miles, and seen clearly, all the trees for about three or four degrees on each side of the sun become trees of light, seen in clear flame against the darker sky, and dazzling as the sun itself. I thought at first this was owing to the actual lustre of the leaves; but I believe now it is caused by the cloud-dew upon them, every minutest leaf carrying its diamond. It seems as if these trees, living always among the clouds, had caught part of their glory from them; and themselves, the darkest of vegetation, could yet add splendour to the sun itself."

I can add nothing to the above but to say "How we love to stand beneath them, and gaze upward at their dark plumage, and breathe

their delicious fragrance, and listen to the wind sighing amidst their mighty branches!"—LORDSWOOD.

Obituary.

DEATH OF "A LANARKSHIRE BEE-KEEPER."

A well-known personality among Scottish bee-men has passed away in Mr. Wm. Thomson—better known in England under his nom-de-plume of "A Lanarkshire Bee-keeper"—who died at Lintbutts, High Blantyre, N.B., a few days ago. Mr. Thomson, who was essentially a bee-keeper of the old school, contributed regularly to the bee-column of the *Journal of Horticulture*, and was also a frequent contributor to the pages of this journal in its earlier days. His views did not find much favour with English bee-keepers; his sturdy persistence, however, in advocating methods now regarded here as out of date found him many followers in Scotland. But even those who differed from him in this respect—ourselves included—will be amongst the first to admire his tenacity of purpose in upholding his views, which were, without doubt, the outcome of practical experience in successfully cultivating his bees in a way that yielded both pleasure and profit. As a bee-man he made his mark in the history of the craft, and he will be much regretted.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department reports of Associations, Shows, Meetings, Echoes, Queries Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[3454.] The weather continues mild and fine at times, and spring-like days have come to cheer us, interspersed with those of our ordinary foggy November. The autumn foliage still adorns many trees, only the limes being bare with us so far. Every day, however, changes the leaf-colours, and with the first frosts the gorgeous autumn tints will be gone, developing the usual wintry aspect. Bees still forage for a little pollen from somewhere when the sun is shining, probably from late blossoms of the ivy, on which I have this year noticed an abundance of bloom. After the heavy rains of October, bee-keepers should take a peep into their hives, and if any roof is leaky, or wraps and cushions are damp and mildewed, repair the roof and give dry wraps. A sheet of thin zinc cut large enough to cover and turn under the eaves of the roof makes the best and most durable rain preventer, and if painted white absorbs little more heat than a wood roof painted dark stone colour. If any doubt exists as to a sufficiency of stores, a cake of candy can be given at any time.

Prizes at the Dairy Show.—In my last "Notes" I commented on some of the classes of exhibits at the Dairy Show, and now take leave to say a word on the other classes and "extras." I consider the *Trophy Class* at any show to be the most interesting and instructive in the schedule to bee-keepers, and even still more to the general visitors to the Show. In the classes for sections and extracted honey there must of necessity be a certain sameness; but the trophy class affords a wider range for display, not only in the exhibits as a whole, but also in the several parts of it. It is a moot point, to my mind, in allowing *any* size or description of vessel in which to exhibit extracted honey. No doubt the superior quality of the glass jars of various sizes and heights containing honey adds a point or two in showing off the quality of the honey; but, from a commercial point, these high-class jars are not what grocers and dairymen require in the way of trade, and it is to such that we look to open up a market for the continued growth of the honey industry in the British Isles. This matter is one that I trust will receive comment—editorial and otherwise—in our JOURNAL'S pages.

The "extras" that I would refer to were the Kent and Sussex Association sale counter, under the management of Messrs. Lee & Son. This seemed to me a capital adjunct to the honey show, and a good advertisement of the counties' enterprise in risking the expense. Side by side with this stand came Mr. Greenhill's, also for the sale of honey, which latter, I was told, came from several counties, Mr. Greenhill being a dealer in honey.

Among the "Interesting Exhibits" were Mr. H. W. Brice's unicomb hive and Mr. Howard's "Danzy" sections; the former was more interesting to the general visitors, and the latter to bee-keepers, who, so far as those I talked with were concerned, were eulogistic in their approval of Mr. Howard's sections, in comparison with the ordinary square sections. The militating point against them, however, is the fact that the size will not fit into the racks now in use. For new recruits to our ranks the objection of expense does not count, as racks to take the "Danzenbaker" section would not entail more cost than the ordinary rack, while the sections are about the usual price. Mr. Danzenbaker is noted in America for what they term

"gilt-edged" section honey, and I believe he has used the 5 by 4 section some years past.

Foul Brood and How to Deal with It.—This subject is again coming to the front; your medical readers suggesting an anti-toxin to overcome and annihilate the toxin of the bacillus alvei. If the anti-toxin could be produced by a colony through giving some special remedy in the ordinary bee-food the result may be satisfactory, but the treatment recommended by Mr. Cheshire has not had the desired effect, neither has the feeding of naphthol beta in the food given to a diseased colony radically cured foul brood. But while the remedies sold as preventives act as deterrents or subjugators of the disease, I am not convinced myself that they are annihilators of the bacillus. The fact that diseased colonies have been cured by the shake-off method, and also by the starvation method, seems to me proof positive that adult bees are not themselves subject to the disease or infected with either the bacillus itself or its spores; and if I am right, this fact also proves that the queen cannot be the means of propagating the disease by ovipositing eggs already containing the germs of foul brood, otherwise there could be no cure by the methods above mentioned. Large numbers of colonies are said to have been cured in America by the shaking-off method, and the hives disinfected by burning out the inside with kerosine. This plan of disinfecting a hive is effectual, and if the frames, combs, and quilts are burned, and the bees put into the same hive on foundation in new frames, the cure is supposed to be complete. It is possible that the kerosine may destroy the spores outright, without the burning applied to all the interior parts of a hive. Will some of our scientists prove if such is the case by trying cultures of bacilli after saturation with petroleum?—W. Woodley, *Beedon, Newbury.*

FOUL BROOD.

TREATMENT BY ANTI-TOXIN.

[3455.] I am pleased that my letter on the above subject has attracted the attention of two expert bee-keepers in the shape of my old acquaintance, Dr. Farrant, and also of Dr. Percy Sharp. I was quite prepared for the cold water which they have thrown on the scheme, and when I broached the subject I was fully aware that there were great difficulties in the way, and that skilled and painstaking experiments would be necessary before any results could be arrived at.

I should like to remark upon some of the points which have been raised. I am conversant with the methods and rationale of obtaining antidiphtheritic serum from the blood of the horse—an animal which, I am aware, enjoys a natural immunity from the disease, and it is the fact of this immunity that should give encouragement. May not other members of the insecta enjoy a natural immunity from foul brood? At any rate, this would be the first point to make certain, and then a method of making these particular insects anti-toxin producers must be sought for, and surely this piece of research is within the sphere of practicability.

In the next place, if it became a matter of immunising all the young brood, I must admit that the idea is perfectly hopeless; but I venture to disagree with Dr. Farrant about the non-transference by heredity of artificial immunity, although it is not transmitted to the same degree as natural immunity. Take small-pox, for instance. I think no one will deny the fact that when small-pox does attack an unvaccinated individual whose antecedents have been protected against the disease by vaccination, the type of disease is not to be compared with the virulent type which it shows when it finds a virgin soil, as it does amongst negroes. This may be called race susceptibility, but it is in a large measure accounted for by the acquired immunity in one case and the absence of it in the other.

At the present stage I think the method of administering the anti-toxin may be left out of the question; if it were found that it could not be absorbed in the stomach without having its properties destroyed by the gastric juice, there are other modes of administering it other than hypodermically, and the possibility of immunising the larva instead of the perfect insect should not be lost sight of.—J. H. S., *Wells, Somerset.*

(*Correspondence continued on page* 466.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Mr. Goddard, whose out-apiary is illustrated on next page, being, we imagine, too modest to write the "text" to go along with the picture, deputed the task to the Hon. Sec. of the Berks B.K.A., who is fully conversant with the apiary, its owner, and the latter's bee experiences, and kindly writes us as follows:

"Mr. Goddard's apiary, regarding which I have been asked to give a few particulars, may be regarded as a comparatively modern one when compared with many of those which preceded it, for its owner is a bee-keeper of some six years' experience, previous to which he may be said to have had quite an antipathy to bees, and would probably have laughed at the idea of taking up bee-keeping; but being casually attracted to the crowded tent of the Berks Bee-keepers' Association at one of the shows of the Newbury Horticultural Society, his interest was aroused, and with an energetic enthusiasm with which he follows all his hobbies, he forthwith took the matter in hand, and in a few years was the owner of some sixty stocks of bees, with which he has been very successful, and Mr. Goddard may now be held up as one of the many examples of the work done by the Bee-keepers' Associa-

tions ; and when I add that he now holds a second-class expert certificate from the British Bee-keepers' Association, and is one of the lecturers for his County Association in their bee-van propaganda for the Berks County Council, it will be seen that he is a very apt pupil, and has made the most of his time and opportunities.

"Having the management of a large lumber business on his hands, his bee-keeping has to be done in spare moments, that this must be fully employed, it will be agreed when I state that almost all the hives are home made, and that the stocks have been chiefly made up by driven bees obtained in the district. I may also state that during the autumn of 1896 a home-garden, with a whole menagerie of animals of every sort to be found, and one cannot help coming to the conclusion that both Mr. and Mrs. Goddard are real lovers of Nature when visiting their home ; while the fact that Mrs. Goddard takes an active interest in the bee-keeping department and in every possible way lends a helping hand to her husband's active life shows that during the summer months their home must be a very busy one, for they are very successful horticulturists, and many are the prizes gained at the local shows.

"Mr. Goddard is also an active member of the lodge of Freemasons, the cricket club, bowling green, and on the local committee of

MR. E. W. GODDARD'S OUT-APIARY, WASH-ROAD, NEWBURY, BERKS.

Mr. Goddard and a friend drove something like 500 stocks between them, so it will be readily gathered that they must have had a busy time of it.

"The apiary in the picture represents one of two owned by Mr. Goddard, and is situated in a disused gravel pit, close to the high road ; needless to say it forms an object of much interest to the passers-by. The home apiary, which is about the same size, being more scattered, does not lend itself so well for the photographer, but is a model apiary, and the writer recalls many pleasant memories of visits paid to this home of industry, situated in a veritable paradise of the Gordon Boys' Brigade, and many other institutions in the town, and he also writes the bee-keeping articles for the *Gardeners' Chronicle*.

"In his bee-keeping hobby Mr. Goddard has had the advantage of the friendship and advice of his neighbour, Mr. Birkett, hon. secretary of the Wilts Bee-keepers' Association, and I am quite sure that gentleman will admit that he has proved one of his most successful pupils."

We trust that both Mr. and Mrs. Goddard may live long to enjoy what must be with their busy life and pleasant surroundings a very happy life.

CORRESPONDENCE.

(*Continued from page* 464.)

EARWIGS.

CAN THEY USE THEIR WINGS?

[3456.] One day I watched an earwig with interest, startled out of its lair—an old comb—by wax-melting operations. Frightened, it rushed to the edge of the comb, only to start back in alarm as it encountered the scalding water. Back it ran to the other edge and back again with another start and still another as it found itself surrounded by the rising tide of waters. And I, cruel giant, watched its unavailing efforts and saved it not, but by a sudden plunge at last gave it to instantaneous death! Now, of course, that earwig had wings, "beautiful wings," but *this* is the point—*Why didn't it use them?*

Problem.—If an earwig, to save its life, won't use its wings, will it use them to find for itself a warm nest, when the warm nest is a bee-hive and the bee-hive stands on inverted bottles?

Mr. John Macbeth is scientifically wrong, of course, but I for one should like to know if he is *practically* right. Tell us, then, Mr. Editor, do earwigs find their way into your own hives or not?—F. GORDON, *Low Grove, Keswick, November* 19.

[When much younger than now (we know our correspondent to be young), we, like him maybe—anyway, like most young bee-keepers—regarded such "finds" as a few earwigs about our hives as matter for serious thought and action. In consequence we fought the earwigs in various ways, with the object of getting rid of the intruders. Sometimes we won; at others the "wigs" were victors. But "as age came creeping on" we grew kinder to the earwigs—just as we now try to be to young bee-keepers who ask questions that would have made us *savage* a score of years ago—and we now feel somewhat of a wrench when brushing off a whole family of earwigs (from the big brothers as hard and brown as *père et mère* down to the tiny white babies) to drown in the water pot. This is all we have to confess in reply to the final query above, except saying that we are rarely troubled with earwigs after taking ordinary precautions.—EDS.]

HONEY-MAKING BY MACHINERY.

[3457.] Some years ago I noticed a paragraph in your monthly, the *Record*, giving particulars of a wonderful discovery "made in America" by which fabulous "takes" of honey were to become the order of the day. It was called the "Alphage System," I think, but I never again heard it even named. Has it proved a "will o' the wisp"?

The same query comes into my mind regarding the manufactured comb "made in Germany." I believe nothing more has been heard of it. Your justly esteemed contributor, "Lordswood," too—jocularly, of course—told us of a machine he was perfecting to make honey direct from the flowers! I have been wondering lately if it has taken up so much of his spare time that he has none to give for the compilation of those inimitable articles of his, bright with the breath of spring, sweet with the carol of birds, redolent with the perfume of flowers, bright, like them, with beauty, grace, and sweetness, and gay with the gladness of heart of a good man.—D. M. M., *Banffshire, N.B., November* 17.

[1. Regarding the "Alphage," we suppose it has gone the way of all such; at least, we do not know anything good of it. 2. The built-out comb made by Mr. Otto Schultz, of Frankfort, and mentioned in B.J. of March 26, 1896, page 121, proved too costly and heavy to make it suitable for general use. 3. Our correspondent had evidently not received his B.J. of the 17th inst. when he wrote. —EDS.]

NOTES FROM SOUTH BUCKS.

[3458.] Your correspondent, "A. H.," North Bucks (2126, p. 457) is desirous of knowing the proper time to discontinue driving bees in the autumn? Now, living in the same county, and having driven some hundreds of colonies for myself and others, I may be allowed to tell him that it all depends on the circumstances in which he is placed. For instance, if he has in possession some good worked-out combs to put the bees on and the weather is good, bees may be driven up to so late as the first or second week in October; and if then fed up with good, thick, warm syrup, they will usually seal it up before the end of the month. But if the bees are to be placed on foundation to work out and store in, the second week in September is quite late enough. For myself I have always been fortunate enough to get the cottager's consent to have his bees driven early in August, after explaining that there is no more honey coming in after that date in our district.

I was very much taken up with the latest American method of "removing" surplus honey in the way of kicking it off the hives—shown on p. 456—and, although a few years back I was a bit of an adept at "kicking," —when my foot was employed on anything in the shape of a ball—I should not like to try my hand (or, rather, foot) at kicking supers off hives. Placed as I am with my apiary in the centre of the town, surrounded by houses, I would, therefore, much rather stick to the super-clearer; but we hear of so many odd ways of doing things from across the herring-pond. I should like to know what condition Mr. Coggshall's sections were in after the kicking process?

Rendering Wax.—Since the Dairy Show the subject of wax melting and moulding seems to be arousing more interest than usual. I might

say, not a bit too soon, for no bee-keeper could help noticing the reluctant way in which the classes for wax at many of our shows were filled; while the state in which the wax was put up for exhibition was not seldom a disgrace to what is our second (in importance) article of product from the bees. I have tried all sorts of methods in extracting my wax except the "soaking" idea mentioned by Mr. Ford, which I think an excellent plan. And having a few old combs by me now I intend experimenting on them.

Roof Ventilating.—Your correspondent "J. Morgan" (3447, p. 454) asks advice respecting ventilating the upper chambers of hives. This question, I may say, occupied a good deal of my attention some years ago. I thought, like the porch, it was essential to have it, as it was to have a porch to entrances, but both of these are now omitted in my hive-making, as I fail to see their utility in practical use.—G. SAWYER, *Marlow, Nov.* 19.

ENTOMOLOGICAL.

[3459.] Perhaps the following may interest some of the readers of your useful little paper, or perhaps open up some correspondence on the fertilisation of queens. On July 23 of this year, on the north corridor of the Crystal Palace, Sydenham, we witnessed the fertilisation of a reddish-brown queen, probably *apis lapidaria*, with a drone of the common humble-bee (*apis terrestris*). The insects were attached together on the wing, and as they did not make much progress in flying we were preparing to catch them, when suddenly, before we had time to realise what was being done, and what a rare sight we were witnessing, they flew up under the roof of glass, much to our regret. Has any correspondent or member of the staff of your valuable paper ever seen the same? About twenty of us saw this, and all can add their testimony.—EDGAR WILSON, *West Norwood, November* 19.

LATE BREEDING.

[3460.] I note that your correspondent "Buzz," (Millbeck, 3451, p. 455) in to-day's BEE JOURNAL speaks of having brood and eggs in a hive on Wednesday, November 9, and inquires: "How many brethren of the craft can boast of, or confess to, a queen laying on November 9?" Allow me to say that I took the opportunity of a mild afternoon to make the last inspection of the season on the date in question and found brood in nine out of my ten colonies. In three of them, where I introduced young queens late, I found brood in all stages. None of the hives were fed or stimulated in any way, and to-day (November 18) I notice the bees of several stocks are carrying in pollen freely.

I sincerely trust we shall not have another poor bee-season in our district like that just passed for many a long year to come.—D. G., *Ilminster, November* 18.

A NEW SUPER CLEARER.

[3461.] In autumn, 1893, I chanced to lay the roof of one of my hives on the ground in such a position that the point of the cone clearer got plugged with mud. This was not noticed when I left a rack of sections, in the then usual way, on the top of the quilts to clear it of bees. About an hour after I observed that no bees were escaping, and on examining as to the cause, found that the opening was effectually sealed. When, however, I removed the roof, I found the sections almost cleared of bees. They had found egress down the sides of the inner case, and very soon had joined their comrades in the brood nest. The new Porter Bee Escape came into prominence next year, and I used it only. Later, I again tried my new plan, and found it thoroughly efficient. Last year I scarcely used my "Porter," and this year again I only used it twice in competition with the other plan and Abbott's brass cone. Early in the season the "Porter," the simple cone, and the new clearer about ran neck-and-neck; but at the end of the harvest, when the test is more severe, *it* was an easy first, the "Porter" a good second, and the cone far behind. It works best in hives on the "W.B.C." plan, but I tried it effectively on long hives by slightly raising the back dummy and allowing the bees to run down behind. It is a simple plan, costing nothing. It is thoroughly reliable. It works as quickly as an escape. It causes no upset.—F. E. I. S., *November* 19.

SOME PECULIARITIES OF 1898.

VARIATION IN HONEY FROM SAME HIVE.

[3462.] A few remarks in Mr. Woodley's "Notes by the Way," in B.J. of November 10, have induced me to send you the result of my observations and experiences of 1898. From the peculiarities of the year now nearly passed, from a bee-keeper's point of view, I thought we might have had more references to honey-dew gathered by our bees. In this neighbourhood several persons have asked me what was the sticky substance found on the leaves of the trees and dropping in such quantities on the ground underneath; many remarking they had never seen anything like it before. I would like to ask if any readers of the B.J. have had a similar experience to this, which is my own:—During the week of the "Dairy Show" (October 18-21) I opened two racks of sections that had been wrapped in newspaper and laid by until I had more leisure to remove them, and I found in the first one a complete row of seven sections all dark honey, the other

two rows perfectly white. In the second rack I found all the centre sections had been started and partly finished with very light-coloured honey, and then, to all appearance, work had began again, and the sections finished with dark honey, the second start of work being more extended than the first. The question it suggested to me was, do bees work in "gangs," a certain number or part of a hive frequenting one place of gathering, and completing a particular piece of work in hand? Query.—Have they a stevedore? Also, in cutting a section placed on the table sometimes I have noticed a streak or stream of dark honey and light.—JOHN BROWN, *Polyphant, Launceston, November* 15.

BEE NOTES FROM LINCS.

NEW SECTIONS AND NON-SWARMING HIVES.

[3463.] The period of rest for our bees having come, and labour in the apiary finished for the year, we should now arrange our work for next season, trying, if possible, to find out what there is in new methods worth preserving and putting into practice in 1899, for although great advances have been made in recent years, there is still room for improvement. The past year has seen the introduction of several new appliances, three of which are, in my opinion, worthy of notice. First comes the plain or "no bee-way" section, with the fence separator, and next in importance to which are the hives manufactured respectively by Mr. W. P. Meadows and Mr. J. S. Greenhill, both of which latter were awarded prizes at the "Royal" Show, Birmingham, in June last. I am sorry I cannot write of the plain section in the light of practical experience, for the past season here was so poor that the racks fitted with this section that I had ready for putting on the hives were not needed. I have, however, conversed with several fortunate bee-keepers who were able to work them, and the result is that in my humble opinion these sections have come to stay, and will be extensively used when they become better known. One reason why I like them is they look so much nicer than the older make when glazed, the face of the comb being so close to the glass that retail buyers will, I feel sure, prefer them to the others. The work of glazing is also much easier, for the glass touches the wood on all four [sides of the section. I have discarded the four-way section on account of the glass only touching the corners. In this respect they are superior to the two-way sections, but with these new make we get the advantage of both the older forms, for it is a perfect four-way and two-way section combined in one. Of course, a proper divider is everything when working the plain sections, and it seems to me that wooden dividers of all kinds should be avoided, for they will warp, and the least bulge in the divider spoils the section by making it unglazeable. The cleated dividers that I like best, so far as my limited experience teaches, are those made by W. R. Garner, because the "lips" (as I call them) touch the side of the section like a knife edge, and thus make a perfect bee-way all round the face of the section; while it is impossible for the bees to propolise them to the section, as they would do in some others which if propolised would be difficult to remove from the racks. I trust the season next year will be more favourable in these parts than the past one, so that I, among others, may be able to work them to a great extent.

I have already taken up too much space in your valuable journal, but I may be permitted to say a word about the hives before mentioned. I have not had the advantage of seeing Mr. Greenhill's hive yet, but it seems from what I have read to be an advance in the right direction. I made, however, a thorough inspection of Mr. Meadows' hive when staged at Lincoln Show, and the more I think of its various parts the better I like its principle. These non-swarming hives are a great desideratum, for if we could only so control our bees as to prevent swarming, how much more enjoyable our craft would be. No one knows what the "swarming fever" among the bees is but those that have experienced it. Anyway, I have had a big share of this particular trouble during the last two years.

Many of us have seen bees hive out under the floor board of a skep and build comb there, yet never attempt to swarm. An instance of this came under my own observation where a cottager set a swarm in a skep on the end of a barrel, the latter having a hole in it; the bees worked down into the barrel and filled it with honey, but never swarmed. I had these same bees given to me for driving, and I well recollect the work. I was a novice then, and had just cause to remember. (Stings!) But this shows that bees will naturally work downwards, and the hives I have referred to provide a special chamber below brood-nest for this purpose. So it must go a long way in the right direction towards preventing swarming. In addition, they give abundance of ventilation, which is another preventive of swarming much recommended by our editors.—R. GODSON, *Hon. Sec., Lincs. B.K.A., November* 18.

DOUBLE V. SINGLE WALLED HIVES.

[3464.] I thank your correspondent "A. H." (3438, p. 446) for what he has said of me in the B.B. JOURNAL for November 10. I regret, however, that I am unable to do as he suggests, as I am not, at present, a bee-keeper; but in the event of becoming one, I shall be pleased to give any information in my power.—FRED. COVENTRY, *Duddington, Stamford, November* 18, 1898.

THE SCHOOLMASTER ABROAD.

[3465.] In the letter of your correspondent, "One Who was There" (3437, page 444), the following sentence occurs:—"The principle *enumerated* by these experiments is that the product treated, or fermented, inherits the superior flavour of the wine from which the special ferments were derived." The manuscript surely reads "The principle *enunciated*"?

Again, in letter No. 3439, have you not put bad grammar (if not bad *language*) into your correspondent's mouth? He surely did not say "he desired permission to make further trials, the result of which *were*"? I say, *where* was *your* reader?"—O. LINDLEY MURRAY.

[After carefully inspecting our "copy," we must, in humbleness of spirit, plead the usual editorial excuse of "printers' error" to the first complaint of "O. L. M.," for the word in MS. is clearly "enunciated." But with regard to the second slip, if—as we strongly suspect—"O. Lindley Murray" (who sends no name or address) be the writer of 3439, we have him there! For we find the word "was" in "copy" is carefully crossed out and the word substituted is "*were*." Now, sir, *where* was *our* correspondent?—EDS.]

Echoes from the Hives.

Marlow, Bucks, November 21.—The weather up to the present is of such a mild description that, on going for a casual glance at one's apiary at midday, it gives one no idea that we are nearing the end of November. Indeed, judging by the bees on the wing, it reminds me of the bright days we sometimes have at the end of February. It will certainly help to get the time over, although there is plenty of time yet for us to have a good old-fashioned winter, with hard and long frost. From the bee-keeper's point of view, I do not care for such a long continuance of mild weather, as I have always found my bees come out weaker in the spring after such a back-end of the year. It causes many bees to fly out and not be able to return; whereas if the weather was so cold as to keep them indoors, I have little fear of *my* bees taking harm from such causes as diminished stores. While on this subject I might mention that last winter a case came under my notice that quite puzzled me. A bee-keeping friend called me in last April to examine a hive in which the bees had died during the previous winter. When packed up for wintering it was a very strong stock, with plenty of stores, but I found the bees all dead, though there was plenty of sealed stores on each side. This happened, however, just after the deep fall of snow on March 25. I concluded that about that time the bees must have changed their quarters, got out of reach of the food on each side, and so perished.—G. SAWYER.

METEOROLOGICAL

OBSERVATIONS TAKEN AT DUDDINGTON, STAMFORD, NORTHANTS, FOR THE WEEK ENDING NOV. 19, 1898.

1898.	Bar. in.	Tem. 9am deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in.
Nov. 13....	29·76	46·9	51	45	6	48·0	—
,, 14....	30·18	43·1	52	43	9	47·5	—
,, 15....	30·21	48·8	53	42	11	47·5	·04
,, 16....	30·14	50·9	56	48	8	52·0	*·02
,, 17....	30·22	49·8	55	45	10	50·0	—
,, 18....	30·32	44·9	50	42	8	46·0	—
,, 19....	30·25	44·8	48	37	11	42·5	—
Means	30·15	47·0	52·1	43·1	9·0	47·6	†·06

* Fog. † Total, ·06.

Mean vapour tension, 0·291 in.; mean relative humidity, 90 per cent.; mean temp. of the dew point, 44·0. The rainfall, viz., ·06 in., = 1,357·38 gallons, or 6·06 tons to the acre, or 4·8 oz. to the square foot. For the week ending November 12, the mean temp., viz., 46°·4, was +3°·4, and the rainfall viz., ·10 in., −·50 in. The rainfall, October 30 to November 12, viz., 39 in., is −·81 in., and that January 2 to November 12, viz., 15·60 in., −6·96 in.

RAINFALL.

Rainfall at Duddington, near Stamford, Northants, January-October, 1898:—

1898.	Rainfall in.	Average in.	Difference from Average in.
January	·88	1·89	−1·01
February	·57	1·66	−1·09
March	1·38	1·38	average
April	1·97	1·76	+ ·21
May	2·74	2·27	+ ·47
June	·87	1·89	−1·02
July	·91	2·71	−1·80
August	2·97	2·24	+ ·73
September	·36	2·73	−2·37
October	2·63	2·98	− ·35
Total	15·28	21·51	−6·23

FRED COVENTRY.

PREPARING BEES FOR WINTERING.

No. 1.

For a number of years past we have had very good winters for bees, and the losses have been small. This success is likely to cause us to be less particular about putting the bees in proper condition to go safely through the period of cold weather that may usually be expected in this latitude.

What are the necessary requirement to safely winter a colony of bees? In my mind I divide these requirements under five heads:—

1. A sufficient number of bees.
2. A sufficient quantity of food.
3. Food of the proper quality.
4. An occasional flight during cold weather.
5. A certain amount of shelter.

The first and main requirement is the number of bees. It matters but little how well the other four requirements may be fulfilled, a handful of bees, in this latitude, cannot be safely wintered, and in hard winters it requires

a very strong colony to safely go through the almost polar extremes of cold, which are so often experienced, and which make us compare our winters with those of Siberia.

The number of bees which forms the colony at the beginning of winter often depends upon circumstances entirely independent of the will or the management of the apiarist, and we can therefore give but little advice on this point. Probably the only time when the bee-keeper can be of any help to his bees, to secure a sufficient amount of strength, is after a short crop, when the bees have gathered so small an amount of honey that they have been unable, though probably willing, to rear a sufficient supply of brood. By judicious feeding in time, that is, before the opening of cold weather, quite an amount of brood-rearing may be induced, and the strength of the colony materially increased by this means.

To obtain this end, the feeding must be slow and regular, for bees will breed mostly when they find food; while if the colony is strong and the supply of honey only is needed, the feeding should be as speedy as possible. It is very easy to understand why breeding depends somewhat upon feeding. The queen needs to be copiously fed, in order to lay a liberal number of eggs daily. When the bees are at rest, and no honey is harvested, she is not induced to eat much, for none of the bees are loaded. But when honey is coming in, either by artificial feeding or by natural sources, the queen incessantly meets bees with a full honey-sac, that offer food to her, and the egg-laying propensity is increased in her thereby. To be sure, there are natural circumstances — weather and season conditions— which will tend to prevent a ready production of eggs at this season; while the reverse of these conditions in the spring would have the opposite effect; but aside from the circumstances that are beyond the control of man, it is not to be doubted that much may be achieved towards increasing the number of bees in a hive previous to winter.

Yet there are seasons in which the concourse of circumstances have created peculiar conditions, and the hive is depleted of its bees though the harvest has been sufficiently plentiful to fill the brood-combs with even more honey than is needed for winter. As an instance of this I will cite one fall, in which our bees had to travel about two miles in order to harvest a good supply of honey, and during which a number of quick and unexpected day-storms destroyed many of the little harvesters on the way to and from the field. Their numbers diminished so that there were not enough bees left in the hive to help keep the brood warm, and the winter loss was tremendous.

I remember, also, buying a box-hive full of honey years ago from an old-time bee-keeper. It appeared that a swarm was put in this hive during a good flow of clover, and the crop was so plentiful that they filled the box from top to bottom. As there was no room worth mentioning for brood, and the queen was perhaps old, the colony had dwindled so that the remaining bees died at the opening of winter, and it had some 60 lb. or 70 lb. of honey, very white and nice, with not to exceed six square inches of empty comb at the bottom. Such occurrences are not altogether unavoidable, especially to the apiarist who keeps a close watch over his bees; but they are possible, and when the conditions are discovered too late, no help can be given.

Then there are other circumstances, some of which are not yet fully understood by us, to cause colonies to dwindle and become weak. Not more than two days ago (October 26) I was helping the boys to remove the supers preparatory to packing the hives for winter, when we came to a colony of bees—fine Italians—in which perhaps two handfuls of bees were scattered about away from the cluster, in the super, as well as in the body of the hive. This circumstance is unintelligible to me. The morning was cold and frosty, and, in normal conditions, these bees should have been united to the cluster at the bottom of the hive; but as they were scattered about they had become chilled and were likely to perish.

We can therefore say that the quantity of bees necessary to a good wintering is not always dependent upon the will or care of the apiarist, but can only be improved by him to a certain extent.

Another time I will examine the other propositions laid down at the beginning of this article.—C. P. DADANT, in *American Bee Journal.*

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

O. ROBERTS (Tarporley).—*Feeding Back Old Honey.*—We are very pleased to receive your statement of the facts in connection with the query referred to in our issue of the 10th inst. (2123, page 448). The matter is certainly placed in a very different light after the explanation given, and it serves to show how true is the adage that "there are two sides to a story."

A YOUNG BEE-KEEPER (co. Durham).—*Packing Bees for Winter.*—Your willingness to help in making the bees of your friend comfortable for winter by "hackles" of straw and "brackens" is very commendable; but if he carries out his intention of making a "W. B. C." hive, the skep may be put in the outer-case of that hive, and will then need no packing at all.

A. T. (Colne Valley).—*Foul Brood.*—Sample of comb sent is badly affected with foul brood.

Editorial, Notices, &c.

THE "ROYAL" SHOW, 1899.

"SENDING ROUND THE HAT."

We are glad to note that the holding of so important a show as that of the Royal Agricultural Society of England in the county of Kent has not been lost sight of by the Council of the B.B.K.A.

Maidstone is almost near enough to London to make the show a metropolitan one, and it is not too much to say that it will be regarded as such by bee-keepers located around London. Indeed, the appeal for donations to a fund for augmenting the prizes offered in the Bee Department of the Royal is not only characteristic of our energetic Vice-chairman, but it shows the feeling of those living near town with regard to the Maidstone meeting in June next. Judged by Mr. Till's previous public-spirited efforts in the same direction—where the good of the Bee Industry is to the fore—it almost goes without saying that the "hat" will go round to good purpose. Anyway, a fair start has now been made, as will be seen by the first list printed below; and we trust to see it added to week by week for some time to come.

It may be well to ask that readers will not lose sight of the "nimble shilling" which goes such a long way—when there are plenty of them—and sometimes yields a crop beyond the total of the larger donations. Let those who are unable to spare a larger sum send what they can to make up what will cover the cost of rendering the "Royal" of '99 worthy of a metropolitan show and of a visit to London, in order to see it, from bee-men all over the kingdom. Cheap trips to town will, no doubt, be plentiful enough, and we hope to see some arranged for which will carry visitors down to Maidstone free of any extra rail fare.

"ROYAL" PRIZE FUND.

Sums received or promised :—

BRITISH BEE JOURNAL ...	£1	1	0
F. W. L. Sladen	0	10	0
Edwin H. Young	0	10	0
E. A. Cannell	0	10	0
Hubert F. Jolly	0	10	0
J. Castleman Brown ...	0	7	6
Mrs. Charlotte E. Watson ...	0	5	0
H. W. Brice...	0	5	0
E. D. Till	0	5	0
J. M. Hooker	0	5	0
Ernest Walker	0	5	0
W. B. Carr	0	5	0
T. I. Weston	0	5	0
Mrs. H. W. Brice	0	2	6
"A Lady" (Sussex Apiary)	0	2	6
H. Brice, jun.	0	2	6
H. W. Seymour	0	2	6
F. P.	0	1	0

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

FOUL BROOD: ITS TREATMENT.

[3466.] I note with satisfaction that bee-keeping readers of the B.B.J. are giving attention to this matter with a view to finding an effective remedy for what is admitted to be the scourge of bee-keeping. But in considering the question it seems to me that the first essential for those who enter into the discussion of the subject is to perfectly and clearly understand its nature and extent. This done, a cure will, I feel certain, be eventually forthcoming, and more or less by such means as those suggested by your correspondent "J. H. S.," for the plan he proposes seems to me most feasible. As to the nature of foul brood, it may be said that all forms of life are infested with bacteria, each of which has certain functions to perform which are in the main conducive to well being, and it is only when a particular bacillus predominates, whose functions are detrimental to health, that a state of disease is set up. Thus, no mistake must be made as to adult bees being immune where foul brood is concerned. I have myself found quite recently in the alimentary canal of worker bees removed from infected stocks *bacillus alvei* in large numbers, and the same is the case with queens; nor can there be any doubt that they exist in other parts and tissues, though I have not been able to satisfactorily trace them so far. I have, however, found them in honey taken from the stomach of the bee; this, however, may have been derived from the ruptured vesicles, and

also in the juices of the larvæ, and having in view certain difficulties I foresee in utilising methods proposed, I am convinced that whatever the cure is ultimately to be must be one to be used in the food given to the bees, and especially the nurse bees. I am, therefore, clear that the intestine of the bee and the larvæ are the happy hunting ground of the bacteria of the disease, and once a counter agent is found to upset the preponderating balance of evil created in this portion of the anatomy, we need trouble little about disinfectants, whose effects are evanescent though helpful if persistently used. No disinfectant or remedy will destroy the spores without killing the bees; that is also certain, but produce a condition in the bee so that its balance is antagonistic to *bacillus alvei*, and foul brood will be heard of no more.

As to raising culture in media saturated with petroleum, your correspondent, Mr. Woodley, is evidently unaware of the nature of a cultivation, and with what care the necessary medium has to be prepared to render it effective and satisfactory. It requires almost the skill of a chemist to produce the proper and necessary conditions. Nature's laboratory is one thing, but an artificial substitute is another, and any foreign substance would prevent development. We must, however, not forget that even now bees can be and are cured of the disease. I know of twenty or more cases of cure this summer in different parts of Kent and Sussex by the starvation method and then placing the bees on starters of foundation which are at the end of a week removed and fresh starters again given in a clean hive, the bees being meantime fed with syrup medicated with naphthol beta. Bees die in each lot so treated, but the cure is undoubted.—HENRY W. BRICE.

ANTITOXIN.

[3467.] I was reading the other day in an American medical paper that the use of antitoxin—at any rate as regards diphtheria—is being discontinued, as it is found that the beneficial results which were obtained by its use were solely due to the small amount of carbolic acid used to preserve it, the same results accruing from the use of hypodermic injections of small doses of carbolic acid alone.

This is "returning to our muttons" with a vengeance if our American cousins' discovery is corroborated here.

I should like to assure your correspondent, Mr. F. Gordon, that earwigs' wings are not merely a matter of ornament. They do use them, for I have seen them fly; they are, however, nocturnal insects, and probably only fly from plant to plant, or to such places as they may find shelter and warmth. Possibly the insect your correspondent had under observation was flurried and excited owing to the abnormal circumstances by which it was surrounded, and forgot until too late the accessory means of locomotion which it had so carefully encased before seeking the seclusion from which it was rudely ejected.—(DR.) PERCY SHARP, *Brant Broughton, Newark, November* 27.

EARWIGS.

[3468.] I hasten to explain that I had no more intention of bothering the Editors with a query on this subject than the earwigs I find in my hives bother me. If inverted bottles do keep them out I shouldn't be at the trouble of fixing them. At the same time, I thought the question of the usefulness of their wings had a certain amount of entomological or, possibly, "apiaristical" interest. And the "sir" in my letter which you naturally took as referring to our Editors, and so changed to "Mr. Editor," was meant for Mr. John Macbeth, whose method of excluding earwigs had been called in question in No. 3446, p. 454.

Addressed to the Editors the question was pointless, and if a score of years ago it had made them "savage," it would serve the questioner right. — F. GORDON, *Keswick, November* 28.

[Our correspondent will no doubt notice that in the above communication we have in three or four instances inserted the word "editors" in lieu of the words "you" or "yourself," as the case required. In doing this we merely follow the rule made necessary by the fact that letters in this column do not begin with the word, "Sir." If by thus doing we may chance to take somewhat from the *point* of a question the fault is not ours.—EDS.]

EARWIGS.

CAN THEY USE THEIR WINGS?

[3469.] This question is of great interest, and I should be grateful if I may be allowed to say one or two words on the subject which may throw some light on Mr. Gordon's difficulty (3456, page 466).

To say that all earwigs have wings is a mistake, for although there is only one genus in this family, there are several species of it in Europe, and the *Forficula auricularia* (our common earwig) is the best known. Some species are apterous (wingless). A little inquiry into the metamorphoses of earwigs shows us that the larvæ, though resembling the perfect insect, have their wings as yet undeveloped, whilst those of the pupa are *very* rudimentary, and it is not until the insect has passed through the final change that we find they acquire wings.

The way in which the parent watches over its young is quite touching, brooding over them like a hen, and, when disturbed, carries them away to a place of safety. The *Forficulæ* are strictly nocturnal and avoid light, and hence it is, no doubt, that so few have ever seen earwigs on the wing.

The wings as organs of flight are most

interesting. They consist of four; the two anterior wings are short and square, and cover but a small part of the body, in this respect resembling the *Straphilinidæ* (one of our British species, being the commonly called "devil's coach-horse").

The posterior wings have no resemblance, and can be folded (like a fan) into a small compass, and, with the exception of a very small portion, are covered by the anterior wings.

The former are exceedingly lovely and transparent, and exhibit prismatic colours when seen in motion in the light, the shape being, when fully open, that of the human ear.

Therefore, I think it is quite easy to understand why the earwig, placed in circumstances such as those described by your correspondent, should behave as it did.—R. HAMLYN-HARRIS, F.E.S., *Villa Rominger, Tübingen, Germany, November* 26, 1898.

ENTOMOLOGICAL.

[3470.] The letter 3459, on page 467, reminds me of a similar instance of courting between humble bees of different species that I witnessed a year or two ago. In this case the female was *Bombus terrestris* and the male *B. lapidarius*. I have never heard of a hybrid between these two species, and I think such an occurrence would be most improbable under ordinary natural circumstances.

Is Mr. Wilson quite sure that the humble bees he saw belonged to separate species? In *B. lapidarius* the two sexes are very differently coloured; the female is entirely black except the bright orange-red "tail"; the male is much smaller, and besides his orange-red tail he has two bright greenish-yellow bands on the thorax, and generally another faint one at the base of the abdomen.

This subject puts me in mind of a remarkable occurrence which took place before my eyes in 1896 on a stretch of down not far from here. It was early in the afternoon on a hot July day. I had noticed a peculiar hum in the air which I had correctly attributed to honey-bee drones, and was trying to catch sight of one, in order, if possible, to catch it in my net, and verify my suspicions, when in an instant a number of them suddenly gathered from all quarters and formed a lump in the air quite close to me, which, taking an irregular course, soon fell to the ground. I immediately put my net over them, and thus secured, I should estimate, at least fifty honey-bee drones. The whole thing was the work of a few seconds. I hoped I had secured a prize in the form of a queen honey-bee, but great were my surprise and disappointment when on examining my capture I found the drones had been misled by nothing more than a poor worker humble-bee. The species I think was *B. terrestris*.—F. W. L. SLADEN, *Ripple Court, Dover, November* 26.

DRAWINGS OF BEE-HIVES TO SCALE.

[3471.] I have a suggestion to make which I feel sure will meet the approval of all bee-keepers—that is, to provide working drawings on a large scale, say *half* size of bee-hives something after the plan of the scientific journals, the working drawings to be charged, say, 6d. each for No. 1. The W.B.C. Hive; No. 2. The Wells Hive; No. 3. The Ford Wells Hive; No. 4. A hive with chambers under floor board something after the style of Mr. Meadows' hive. The drawings might *easily* be *printed* on thin paper, being all straight line work, and on each drawing could be printed the exact sizes of every piece required in plain figures. I think this would be an inducement to many of our working-men bee-keepers to fill up the long winter evenings by hive-making, and feel confident you would get a good sale for the drawings and so be a source of profit to yourselves which no one would begrudge. You are always giving free advice yourselves, and one good turn deserves another.

The small illustrations of hives as given in the B.B.J. are really not plain enough for a great many enthusiasts. There is always a certain amount of doubt and uncertainty, especially to beginners. We can get cut out patterns of ladies' dresses for 1d., why not good working drawings of bee-hives for 6d., or even less? I would like to have your views on the subject, and beg to subscribe myself,—A BEGINNER.

KEEP BEES!

[3472.] The following is an extract from *Notes and Queries* for September 23, 1882 (6th S., vi., 246):—

"A Stock of Bees *versus* Bank Stock.—A good old French bishop, in paying his annual visit to his clergy, was much distressed by the extreme poverty which prevailed among the peasantry. While deploring their impoverished condition, he arrived at the house of a curate who, living amongst a poorer set of parishioners than any he had yet visited, would, he feared, be in a still more woeful plight than the others. Contrary, however, to his expectations, he found appearances very much improved. Everything about the house bore the aspect of comfort and plenty. The good bishop was amazed. 'How is this, my friend?' said he. 'You are the first man that I have met with a cheerful face and a plentiful board. Have you an income independent of your cure?' 'Yes, sir,' said the clergyman, 'I have. I should only starve on the pittance I receive from the poor people that I instruct. Come with me into the garden, and I will show you the stock that yields me an excellent interest.' On going to the garden, he showed the bishop a large range of bee-hives. 'There is the bank from which I draw an annual dividend. It never stops payment."

"Ever after that memorable visit, when any of the clergy complained to the bishop of poverty, he would say to them, 'Keep bees, keep bees!' "WILLIAM PLATT.

"Callis Court, St. Peter's, Isle of Thanet."

—FRED. COVENTRY, *Duddington, Stamford.*

WORKED-OUT COMBS *v.* FOUNDATION.

[3473.] I have to thank our friend Mr. Sharp for reply to my remarks about bees taking to foundation in preference to worked-out combs (3443, p. 453). I did mean sections in that case, and in regard to shallow-frames of worked-out combs, I have always found my bees take to the combs before working out any frame containing foundation only. It appears to me a rather singular incident for Mr. Sharp to find that his bees this season preferred sections filled with foundation to sections that had been on the hive some considerable time, and that were not completed; but it is possible that the sections of foundation were placed in the centre of the crate, and that being so, the bees worked away at them and finished them, while the others that, I assume, were on the outside of the crates, perhaps from being colder kept the bees from finishing them. I have frequently found towards the outside of the crates, sections unfinished.—JOHN WALTON, *Weston, Leamington, November* 24.

FOUL BROOD IN YORKS.

[3474.] Being a Yorkshireman from the East Riding I take a special interest in the letters and doings of your correspondent "Alpha, Hull." Referring to 3453 (p. 456) I see he sends his bees to the moors. I longed to do so when in Yorks, but never managed it. Now I have no need, for better moors are at hand here. I can tell him of a zone which, if as fortunate as when I kept bees there ten years ago, is free from foul brood. My modest apiary was situate on the coast three miles north of Hornsea. I drove bees in the neighbourhood so far as five miles to the north, and never saw foul brood. The clergyman of the next parish, one mile inland—my father in the craft—was an advanced apiarist with twenty hives or more; he drove bees and never saw or heard of disease. In Jubilee year this apiarist got over 200 lb. from a hive of hybrids in a district not too good. He is gone, so am I, but my hives and bees remained behind in two other hands to shed a little light in a region dark with skepists. But in 1891 or 1892 the pest was reported at an apiary at Cottingham. The owner sold his bees—we will hope only healthy ones — and left. Cottingham cannot be far from Alpha's home, but that he may remain untouched and succeed in banishing the plague afar is the sincere wish of F. G., *Keswick, November* 28.

ENTOMOLOGICAL.

What atom forms of insect life appear,
And who can follow Nature's pencil here?

[3475.] In reply to your correspondent Mr. Wilson (3459, p. 467), I should like to say that the fertilisation of females of all kinds of species of "insecta" is often to be witnessed in the state to which he refers by lovers of nature who are continually on the look out for the beauties of God's creation. At least, I have often found such, particularly certain species of "diptera," though I admit that a keen and practised eye is required. When such has been acquired after years of patient study, wonders (for such they are) such as the one mentioned sink into oblivion compared with the greater marvels which daily rejoice the heart and meet the eye of the naturalist.

May I further state that no such "species" as "Apis Lopidaria" and "Apis Terrestris" are known in the entomological world, Apis and Bombi being two distinct genera.

Does your correspondent refer to Bombus Lapidarius and Bombus Terrestris respectively? Both are, as your readers know, very common. B. Lapidarius occurring first in the spring, and is the Lapidary Bee of Vergil.—R. HAMLYN HARRIS, F.E.S., *Villa Rominger, Tübingen, Germany, November* 25.

UNFAIR EXHIBITING.

FEEDING BACK OLD HONEY.

[3476.] Regarding the reply to O. Roberts (on page 470) I appeal to you in the interest of bee-keeping generally, and of honey shows in particular, to publish the following explanation of the methods of the exhibitor referred to in the Query of a correspondent whose Query appears on 448. A shadow now rests on the fair fame of Cheshire bee-keepers, and the sooner it is removed the better. Besides, the principle involved is one which affects exhibitors all over the country, and the future success of honey shows is imperilled if they are once suspected of not being "fair and square." There can be no doubt that the award of the first prize to the said exhibitor at the Honey Show in Chester last month has caused great dissatisfaction and surprise among exhibitors and visitors to the show. The winning exhibit was a sample of beautiful light-coloured honey, whereas no such light-coloured honey has been gathered in the district in 1898, nor was there another sample staged at this show. What the exhibitor has done to secure such a sample of honey may have been done in good faith, and with no intention of obtaining prizes unfairly. If he has fallen into an error, let him admit it, and I am sure his fellow competitors would soon forget it. Your correspondent (2123) says that the exhibitor admits the feeding back of the honey, which was afterwards extracted from the supers. The question, therefore, very simply resolves itself into this: "Is it fair or

unfair to feed back to the bees in 1898 honey which was gathered from flowers in 1897, and then extracted and exhibited as 1898 honey, when the schedule says 'gathered in 1898'?" These words "gathered in 1898" are understood by ninety-nine out of every hundred bee-keepers, who read a schedule of a show in 1898, to mean "gathered from flowers of the current year." This latter sentence I have never seen in any schedule, and I hope the day will never come when such minute details must be given to secure fair showing among the followers of our craft.—FAIRPLAY, *Chester, November* 26.

FERTILISATION OF QUEENS.

[3477.] In reference to Mr. E. Wilson's letter (3459, p. 467) on the fertilisation of queens, I was once ordering some shrubs at a nursery when we came across two wasps similarly attached, not on the wing, but on the leaf of a shrub. The foreman of the nursery caught them between the leaves of his pocket-book for me, but they parted or I should have kept them as a curio.

And now, sir, I will ask a question. Have you ever been stung yourself or heard of any one else being stung by a queen bee?—F. W. MOREY, *Ventnor, November* 26.

[Personally, no; though queens do "bite" at times when held between the tips when manipulating.—EDS.]

SENDING ROUND THE HAT.

[3478.] Enclosed please find a trifle for the "Hat." I hope Mr. Till has put an extra strong brim to it, as I feel sure he will be well patronised. It seems to me a very practical way of improving the prize list of the "Royal" schedule, and trust the sum subscribed will pass his expectations.—H. W. SEYMOUR, *Henley-on-Thames, November* 28.

BUYING BEES.

A CASE FOR ARBITRATION.

[3479.] I was invited to reply to the letter of your correspondent Mr. Moreland (3429, p. 436). I did so, but for some reason my reply was not published. Will you therefore kindly allow me to say I have advertised bees for sale in B.B.J. for three years past, during which time I have sent off, similarly packed, many swarms, and except in two instances they have arrived quite safely and given the greatest satisfaction. In the two cases of failure, I sent a second swarm free, and had Mr. Moreland returned his lot I was bound, under my guarantee, to supply him with another. But he took up such a hostile position as to prevent me claiming from the railway company, Furthermore, on two occasions, I offered to submit the case to the decision of the junior editor of the B.B.J., but to no one else, and as the editor declined to act and Mr. Moreland emphatically refused to pay I had no option (especially as statements from railway company were contradictory to his) but either to lose the money or sue him in the County Court, where I am sure the case would have been fairly dealt with.—W. T. SUTTON, *Diss, November* 28.

[REPLY.—The "reply" sent in the first instance was not suitable for publication, and our refusal to act in the case referred to arose simply from the fact that certain rules laid down in our system of payment by "deposit" are based on the understanding that disputes between buyers and sellers must be settled by themselves. It being no part of our undertaking to add to our already heavy burden of labour and responsibility.—EDS.]

CHEAP HIVES.

[3480.] I have been much perplexed since reading an item in your issue of November 17, where, under the heading "A Beginner's First Season Report," your correspondent "W. B. L." (3450, p. 455) says that his hives do not cost more than 5s. each.

I cannot quite understand this. Have you, Messrs. Editors, omitted the figure 2 immediately preceding the 5? Or does "W. B. L." mean this to cover material, or does he find material and the cost of making to be 5s.? Or if he produces hives at 5s., of what does it consist?

In face of this statement I have thought that I must be a noodle or something, for I make my own hives on the "W. B. C." plan, and have the chance of cutting all my stuff free of cost by power, and I have yet to learn how to produce hives at such a cost. Then, again, if "W. B. L." can do this, what big profits our hive makers must be getting; and what an opportunity there is for "W. B. L." putting five shilling hives on the market.—EDWIN WIDE, *Hemyock, Devon, November* 26, 1898.

OUR WILD BEES.

(*Continued from page* 386.)

[3481.] Towards the middle of July in the south, but later in the north, some of the rarest and most interesting of our native wild bees will be making their appearance. One of these, and a considerable prize among collectors, is *Andrena Hattorfiana*. This bee is the largest British representative of the extensive genus *Andrena*, and the female, unlike most of its cogeners, is destitute of long hairs, the greater part of the body being bare and shining. The apical fringe is golden; the posterior legs are clothed with pale yellow hairs; the wings are long and clouded, especially towards the tips. The male has the clypeus yellow, with two small black spots. Length, 14 to 15 mm. *A. Hattorfiana* occurs only on flowers of the Scabious group. I always meet with it on the bank between Walmer and Kingsdown on *Knautia arvensis*.

One of the most curious and pretty bees, occurring about this time in sandy situations, is *Dasypoda hirtipes*. The genus *Dasypoda* is allied to *Andrena*, but may be distinguished at once by the presence of only two, not three, submarginal cells in the fore-wing, it being the only bee with two submarginal cells which carries pollen on the posterior legs. The peculiarity of these bees lies in the enormous extent to which this apparatus is developed in them, the posterior tibia and tarsi (in the female only, of course) being clothed with a dense tuft of very long golden hairs, from which character it has earned both its specific and its generic names. *D. hirtipes* is the only British species; it is a large insect, the female measuring 15 mm. (auobt ⅝ in.). Besides the characters given above, the ♀ may be known by its very short antennæ; the thorax is clothed with pale fulvous hairs; the abdomen is black and shining, each segment with an apical band of short white hairs, broadly interrupted in the middle, the fringe at the apex being sooty-black.

I must not omit to mention here the genus *Cilissa*, the three British species of which fly in July and August. They somewhat resemble small honey-bees, but the antennæ have the appearance of being cut off obliquely at the tip (noticeable only under a lens). The structure of the tongue is very curious. The least rare species is *C. leporina*, which may be taken at Dutch clover bloom in districts where it occurs. *C. hæmorrhoidalis* is found only in the flowers of the common harebell, and *C. melanura* is only known to occur at St. Margaret's Bay on Red Bartsia.

We will now pass on from the rarities to a very familiar bee of interesting habits, *Anthidium manicatum*, the only one of its genus found in England. It belongs to the group which has the pollen-collecting tuft, not on the legs, but on the underside of the abdomen, and it may be at once known from all other bees in this group by the yellow markings on a black ground, chiefly on the face and sides of the abdomen. On the latter they generally take the form of a row of lateral spots, but these vary greatly in size and extent in different examples. It is a good-sized robust bee, and the male has five prominent teeth at and near the apex of the abdomen. He is very partial to the Woolly-hedge-nettle (*Stachys sylvatica*) and to the Viper's Buglos, and where there are large clumps of either of these plants in full bloom, he is almost sure to be seen darting about in and out amongst the tall spikes, and occasionally poising himself in mid-air as he watches his mate busily engaged in extracting the nectar from the blossoms. He is unique amongst the bees in being much larger than his mate, the males of all our other wild bees being shorter and slenderer insects than the females. The nest is formed in some large, ready-made burrow in an old paling or brick wall, and the female lines it with down which she collects from the leaves and stems of the Woolly-hedge-nettle, Milfoil, and other plants. The nest contains several cells lined in this way, and each of them is filled with a mixture of pollen and honey on which the egg is laid. The orifice of the hole is often filled up with fragments of earth.

The genus *Megachile* contains the best known of the venter-collecting bees. There are eight British species, one or two of which are very common. They all appear about this time of year, and are popularly known as Leaf-cutter Bees, from a curious habit they have of cutting little discs out of the leaves of trees, with which they line their burrows. For this purpose tbe head and mandibles are largely developed; the latter are broad, flattened, and grooved. In the male the orifice of the abdomen is on the under side. *Megachile* is a very extensive genus, being found in all parts of the world; many of the foreign species are gaily tinted, but all our British ones are sober-looking insects. The females of several of our species are not easy to tell apart; one of the best and most readily recognised characters lies in the colour of the pollen-brush on the underside of the abdomen. This, in *M. centuncularis*, our commonest species, is entirely bright orange-red. This species is not so large as most of our species — it measures only 11 mm. in length.

In *M. maritima* and *Willughbiella* the males have the anterior tarsi widely dilated; in the females the pollen-brush is whitish at the base, with a tinge of red in the middle, and black at the apex; *M. Willughbiella* has the red portion broader. Both are large insects, 14 mm. to 16 mm. in length. The former, as its name implies, is met with chiefly along our coasts, where it is often very common, the latter frequently occurs in gardens.

M. argentata, a pretty little species, found only in sandy places, where it is often abundant, has the pollen-brush silvery-white, and the upper side of the abdomen is more distinctly belted with lines of pale pubescence than in the other species. It is only about 10 mm. long. It appears, in the south, at the end of June, and flies swiftly with a shrill note.

Cœlioxys is a small genus of strange-looking bees, which are parasitic or "inquilines" on several species of *Megachile*, and appear about the same time. They are, of course, destitute of pollen-collecting organs. In the female the abdomen is "acuminate," that is, it tapers to a sharp point at the apex. In the male the last segment of the abdomen bears six thorn-like spines, and in both sexes the hind-part of the thorax also carries a down-curved spine on either side. All our species are very much alike, the body being very chitinous, black, and largely punctured; the hairs on the head and thorax are greyish-brown, on the abdomen they are white and short, and occur in patches on the sides of the segments, which have a more or less triangular form. *C. elon-*

gata, the least rare species, seems to associate with *Megachile Willughbiella*. I often take it on raspberry blossom, but it is not very common.—F. W. L. SLADEN, *Ripple Court, Ringwould, Dover.*

HOW TO RE-QUEEN CHEAPLY.

It seems strange to me that so many bee-keepers spend so much of their own labour in trying to save work for their bees. This may do for those who keep a few bees "for fun," but with me it is a matter of bread and honey, or, in other words, I keep bees for profit, and I want them to save work for *me*. Farmers do not spade up their ground to save work for their horses. They make the team plough the ground to save work for themselves. I had thought to throw out a few hints on this subject in regard to queen-rearing, but supposed it too late in the season; but your note on Dr. Miller's last Straw, September 15, has caused me to write this article.

Perhaps a professional queen-breeder like Mr. Doolittle can afford the time to make artificial cell-cups and grafted larvæ; but I am sure the honey-producer cannot. Neither can he afford to hunt up queens day after day, to keep those first hatching from destroying the others. I believe that the man who produces tons of honey each year can also produce as fine queens as any one who does nothing but rear queens. One colony will produce hundreds of the best queens during one season, and store a fair amount of honey, and, I think, with less labour than by the Doolittle plan.

I would set apart my two best colonies of Italians, one for rearing drones and the other for queen cells. To the one for drones I would give a large amount of drone-comb. The other I would stimulate by feeding, to induce the swarming fever, giving plenty of worker-comb in two-story hives, so as to get as large a swarm as possible. This swarm with the old queen I would put into an empty single-story hive and let them build comb in as many frames as possible. After the queen has begun to lay a small circle of brood in several combs, I would take her from the hive and give her a new colony. I would then take each of these new combs of brood and cut around through the circle of cells, just in the same ring that the queen lays, leaving the larvæ (just hatched) at the bottom of the piece of comb left in the frames, taking off the lower part of combs containing only eggs. These larvæ are hatched usually the third day from the time the eggs were laid. The bees are now in their best condition for all kinds of work, and will build queen cells by wholesale, and of the best quality, and will put them on the bottom of this cut comb, which, being cut in the shape of the edge of a saucer, will cause the ends of the cells to spread out from each other as you can spread your fingers apart. This gives room to cut out each cell without injury to any other.

These eggs were laid within a few hours of each other, and will all hatch at the same time, and may all be removed to the nuclei at one time, and the young queens will all, or nearly all, begin to lay at the same time. These queens will be raised in a full colony, under the natural-swarming impulse, and will be "the best queens in the world." If one chooses to watch the old colony awhile, many good queens may be obtained from that. Queens raised in this new comb are, I think, apt to be brighter than those reared in dark combs. Advocates of leather-coloured queens should hive the swarm on old combs.

Your engraving on p. 685 shows the comb cut with the circle the wrong way; and if you had not used the cell-cups, and placed them widely apart, the points of the cells built from larvæ in the comb would have been likely to touch each other. The colony used as I have said will build several lots of cells before becoming discouraged; and by giving an occasional comb of hatching brood it may be kept building cells almost indefinitely. Perhaps one trying to supersede a queen might keep it up longer, but I do not think they would build so many cells at one time as they might do under the Doolittle plan.

I have never been successful in getting good queens started from the egg. My bees, when given eggs only, will wait for them to hatch before starting cells, and by that time they seem to loose their vim and start fewer cells, and build them smaller.

By remembering that the egg usually hatches the third day, the larva is sealed the sixth day, or nine days from the laying of the egg, and that it is sealed over seven days, and that the queen is hatching in sixteen days from the egg, there is no watching to do. Queens may be pulled on the fifteenth day, and let run in at the entrance; but I prefer to cut the cells on that day, and insert them between the top-bars of the frames without marring the combs, and let them hatch in the hive.

Please do not think I am trying to offer advice to the professional queen-breeder. I have no such aspiration. I have written this chapter from my own experience, for the benefit of my busy brother bee-keepers who wish to re-queen their apiaries with as little outlay of labour and time as possible.—DELOS WOOD, in *Gleanings (American)*.

[I believe Mr. Wood can produce queens as he says. But one great advantage of the Doolittle cells is they are stronger, will stand rougher manipulation, and can be spaced off on a stick just the distance most convenient for handling; and, after all, the making of the cell-cups and the subsequent fastening and grafting is not so fussy as one might suppose. When we first began working on the Doolittle plan it seemed to me it was utterly intolerable, especially as I thought we could get the bees to do for us that which we might attempt to do at a greater expense; but I must confess that the actual working out of

the plan is simpler and more expeditious than it actually reads on paper. But I do most heartily indorse the idea at the opening of Mr. Wood's article, of making the bees save their owner work as far as possible. The first time I ever attempted to handle a two-horse plough I thought it was necessary to drag the great big tool around each end of the furrow. My Canuck brother-in-law, John, let me proceed in this way for a few furrows, and then showed me how much easier it was for me to let the horses do the dragging—that is, deposit the plough at just about the point I desired to begin the new furrow.—Ed. *Gleanings.*]

NORTHUMBERLAND AND DURHAM B. K. A.

It will be remembered that in 1893, a course of lectures was delivered by Mr. Geo. Wells, Aylesford, Kent, at various centres in Northumberland and Durham, under the auspices of this Association, which were attended by large audiences. Mr. Wells is again paying a visit to the North, arrangements having been made for the delivery of lectures by him as follows:—December 6, Consett, Town Hall; December 7, Rothbury; December 8, Wooler; December 9, Hexham; December 10, Newcastle, Mining Institute, Neville-street.—Jno. N. Kidd, *Hon. Sec., Stocksfield-on-Tyne, November* 26.

Echoes from the Hives.

Honey Cott, Weston, Leamington, November 23.—Up till yesterday, November 22, the weather has been mild and open, with many sunny days, causing the bees to be on the alert, busily rifling the ivy blossoms. In some hives I noticed a score or more of bees returning to a single hive loaded with pollen. To some stocks that I had worked for extracted honey, and which I thought might be a little short of stores, I gave a full quart bottle of the dark extracted honey I have had gathered this year, so as to obviate the necessity of supplying candy-cake further on. Yesterday, too, we had the first touch of winter; the wind from the north was very cutting, which culminated this morning in a severe snowstorm. But with very few exceptions I think the bees are in fair trim, providing we do not have frost of too long duration.—John Walton.

Fryup, Lealholme, Yorks, November 25, 1898.—Seeing in Mr. W. Woodley's "Notes by the Way" that the weather has been spring-like in Berkshire, I may say it has been so here in the north of Yorkshire. Bees have been flying up till Monday the 21st, when it became frosty, and this continued until the 23rd. We then had a heavy snow storm, the snow covering several of my hives completely over so that I had to dig them out. The snow is now melting away again and the weather has become mild once more. I just have a query to put to you, viz., How long will bees live under snow?—Robt. Hunton.

[We have known hives of bees to be buried in snow for six or seven weeks or longer, and come out in the best of condition after a thaw. —Eds.]

METEOROLOGICAL

Observations taken at Duddington, Stamford, Northants, for the Week ending Nov. 26, 1898.

1898.	Bar. in.	Tem. 9 am deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in.
Nov. 20....	30·17	41·7	49	34	15	41·5	—
,, 21....	30·03	42·5	45	38	7	41·5	—
,, 22....	30·03	33·0	37	31	6	34·0	*·08
,, 23....	29·28	33·0	39	24	15	31·5	†·60
,, 24....	29·00	39·0	43	32	11	37·5	·09
,, 25....	28·80	43·2	49	39	10	44·0	·03
,, 26....	28·91	43·1	45	36	9	40·5	·54
Means	29·46	39·3	43·9	33·4	10·4	38·6	1·34‡

* Snow. † Snow and Rain. ‡ Total, 1·34.

Mean vapour tension, 0·212 in.; mean relative humidity, 86 per cent.; mean temp. of the dew point, 35°·3. The rainfall, viz., 1·34 in., = 30,314·82 gallons, or 135·34 tons to the acre, or 6·70 lb. to the square foot. For the week ending November 19, the mean temp., viz., 47°·6, was +5°·4, and the rainfall viz., ·06 in., −·59 in. The rainfall, October 30 to November 19, viz., ·45 in., is −1·40 in., and that January 2 to November 19, viz., 15·66 in., −7·55 in.

Fred Coventry.

Queries and Replies.

[2130.] *Feeding Driven Bees.*—Would you kindly oblige me with information on the following points through the medium of the B.B.J.? 1. In feeding some driven stocks of bees this autumn in three cases I used feeders of the same principle as the one given, figure 77, page 112, of Cowan's "Guide Book." They are made of tin with a float of wood. The contents would be about half a gallon. In two cases the bees emptied the feeders without anything going wrong, and I refilled them; but in the third case and in the other two (after refilling) they lowered the syrup some 2 in., and then got into a compact mass on the float, refusing to return to the hive, and, in fact, drowning or smothering one another. I was keeping a good watch over them, and in every case saved the bees with a loss of only a very few. The puzzle to me was, why should they empty the feeder successfully once and then on refilling go and try and commit suicide in this way? The food was the same in every instance—viz., white lump cane sugar, 10 lb.; water, five pints; vinegar, 1 oz.; and a little salt. Not knowing what to do, I dis-

carded my feeders, and replaced them by bottles, which, of course, are more trouble. 2. Acting on the advice of a bee-keeper here, in three hives of driven bees I placed in each hive two or three frames with full combs, filling them up with frames of wired foundation. In two other cases, not having combs to give them, I hived the bees on frames of wired foundation only. In the two latter cases I soon had my bees with every frame full and sealed ready for the winter. Not so with the former; they seemed to employ themselves in unsealing and eating the honey I had given them, and required feeding long after the others, and in one case they did not manage to store enough, and I shall have to give them candy before the winter is out. 3. How long does the smell of phenyl last after washing a hive out with No. 10 solution, given page 164 in the same book mentioned above? In September last I washed out an old hive with it, and dried it carefully, and some three weeks after I tried to hive a stock in it. I thought I had them safely hived, but was mistaken, as they all left the hive and clustered under the roof outside, and nothing would induce them to return. However, I soon had them safely housed in another hive. Could it have been the smell of the phenyl they objected to? As far as my nose could tell there was no smell left.—L., *Radnor.*

Reply.—1. The "puzzle" you name can only be solved by supposing that you were feeding very late in the season and that the bees got "chilled" while feeding, or trying to feed, and could not return to the hive. When temperature is sufficiently high to keep bees active they easily get over such troubles as above, but a little extra cold chills and overcomes them very soon. 2. Inexperienced bee-keepers can rarely make different lots of driven bees work uniformly in filling and storing combs late in the year. As time goes on you will learn that what would be plain to an experienced bee-man who had the hives directly under his own eye cannot be gauged accurately by us, who only have your results to judge by. 3. *We* have had hives fit for use in far less time than three weeks after disinfecting. We cannot say why you fail. Did you use soluble phenyle?

PREPARING BEES FOR WINTER.

No. 2.

In a previous article, I stated, as a *sine quâ non*, that a colony, to winter well, should contain a sufficient number of bees. I am now reminded that I did not say what this number should be. It surely would be very difficult to state this in thousands or tens of thousands, and if I could do this it would be no better than so many hieroglyphics to most of my readers—I might say to all of them, for no one can make even an approximate guess at the number of bees a hive contains.

It will be much easier to say that I would have bees on not less than five combs when they are clustered, or imbricated together, on a frosty morning, and the clusters should extend for over one-half of the length of the combs. A strong colony, in a very good season, often covers the greater part of its combs below the honey, and it is a very good sign when you raise the super, or the cloth, or the honey-board, from the body, to see the bees clustered a little way down from the top of the combs. At the bottom they will, if healthy, reach clear down to the alighting-board, and will be on the alert at a minute's notice.

The hive had best be reduced to the size of the colony, for it is worse than useless to have a lot of empty comb, perhaps containing neither bees nor honey, at one side or the other. For this reason, with the large hives that we use, we always have a division-board, or dummy, which may be moved up when the useless combs are removed, so as to reduce the size of the hive, if needed, to a proportionate size to the strength of the colony. The dry combs are removed to the honey-house and put away for future use, and the empty space on the side is filled with warmth-retaining and moisture-absorbing materials. If we cannot increase the strength of our colony, it is at least a good plan to reduce the size of the hive to fit it, in such a way as this. But the strong colonies, covering every comb, are much to be preferred.

Now comes the question of food. If a sufficient number of bees is absolutely necessary to a safe wintering, it is equally evident that enough food must be had, and in an available position, in reach of the bees. Twenty-five pounds of honey is considered sufficient, in an ordinary winter, for the needs of a colony. With large hives we would place this amount as a minimum, and would say 25 to 40 lb. A much smaller amount may suffice, and we have reliable reports from experts showing that a colony, wintered in the cellar, may be brought through with as little as five or six pounds; but I would counsel no one to try.

First, the trials that have been made, have resulted in so light a consumption were only for the time which the bees passed in the cellar. The hives and bees were weighed at the moment of cellaring, and again weighed when removed, but they had more honey than the quantity mentioned as consumed, and if it had been otherwise, some of the bees might have been out of the reach of the scant supply, and their loss would have entailed the loss of the colony. Besides, these colonies have already past through a couple of months of fall weather, when put away, which necessitated some food, and this amount should be computed as well as the amount which they would consume when taken out of the cellar, between that and the time of the honey-flow, and this amount would be very much greater than either the fall consumption or even the

cellar consumption, for in the spring they need food, not only for the adult bees that consume but little, but mainly for the young brood which requires a very great amount of food to reach the adult state, and this brood-rearing must not be restrained under penalty of having but a weak colony at the opening of the harvest and a consequent light flow of nectar.

So, even if we winter bees in the cellar, it is well to have plenty of stores. But I cannot help saying that it is most advisable, if either the number of bees, or the quantity of honey, is scant, or if both are short, to winter in the cellar, if a good cellar is at hand. But more of this by and by.

The third question I have in view, and which I consider as third in importance, is the quality of the honey. Perhaps this has more weight than many would imagine. The experienced apiarist who has seen his bees die by the hundreds of colonies by the foul and filthy disease—diarrhœa—is very eager on this point, and dreads above all things the harvesting of fruit-juices, or unripe honey, in late falls. Fruit-juices, grape-juice and apple-juice, principally, are the worst supplies that the bees may gather, and the horticulturist, whose grapes have been sucked dry by the bees of his neighbour, is very much mistaken when he thinks that the apiarist is getting rich at his expense. It is just the other way, and the damaged grapes, or the cider-mill, have caused more loss of bees than almost any other single mishap that bees may encounter.

So the horticulturist and the apiarist should go hand in hand, for their interests are identical, and the loss of one is balanced by the loss of the other, both in the fall and in the spring, for it is well known that when the weather is ugly and the bees cannot visit the apple-bloom in May, the prospect of an apple crop is very poor. We are glad to see that, as people become more enlightened, they become aware of these facts, and the strife that used to exist between these two branches of farming is fast becoming a thing of the past. No one can appreciate this better than ourselves, for we are grape-growers here, now, on a large scale, and it is because we found it necessary to convince our neighbours that they were mistaken in imagining the existence of antagonism between fruit-growing and bee-culture, through the imaginary depredations of the bees.

But I have deviated from my subject in such a way that I am now compelled to leave further consideration of the question of honey for wintering for a later article.—C. P. Dadant, in *American Bee Journal.*

Notices to Correspondents & Inquirers.

M. Sperber (Peddie, S. Africa).—*Appliances for Sending Abroad.*—1. As we are not dealers in bee-appliances we cannot send you prices, but are forwarding catalogue of one who makes a specialty of extractors. 2. Any other size machine than the one taking the B. B. J. standard frame will cost extra as a special order. The "Bee-keeper's Guide Book" will be sent to S. Africa from this office for 2s. 8½d. cloth gilt, or 1s. 8d. in paper covers.

Erine (co. Fermanagh).—*Transferring Bees from Skeps to Frame-hives.*—1. As you are but a beginner in bee-keeping we advise the adoption of the plan of allowing the bees to transfer themselves to the frame-hives in the spring of next year. Keep them in their skep domiciles until March next, then write and remind us and we will give you full details how to proceed. 2. The driven lots of bees put (on four frames) in frame-hive on October 21 last, should continue to be fed as long as they will take syrup; and then have a good cake of soft candy put above the cluster, packing all up warmly. 3. You will soon learn how to capture a queen after keeping bees for a time.

Ashlea (Brighouse).—*The "W. B. C." Hive.*—By carefully reading description of how to make the "W. B. C." hive, you will see that the floor board is loose, the side-pieces fitting over the edge of the hive-stand, which latter was described in a former number of the B.J.

P. F. O. (Basingstoke).—*Slow Delivery of Goods.*—We know the firm you refer to as thoroughly reliable and straightforward; any fear as to non-delivery of goods after acknowledgment of cash received may, therefore, be dismissed. We are also quite sure that there are good reasons for the delay in delivery.

H. F. J. (Henbury).—*Bees Thrown Out.*—The dead bees sent are aged ones which have died within the hive and been cast out during a spell of mild weather. This need cause no alarm. November 20 is very late for wasps to be flying.

New Subscriber (Snaith, Yorks).—"*Balled*" *Queen.*—The queen sent has no doubt been "balled." The natural inference is that for some reason she has been balled by her own bees, and as the stock is thus rendered queenless you can do nothing with the colony now, because any attempt to unite the bees to another stock might cause a repetition of disaster to the latter.

J. C. (Belfast).—*Honied Candy.*—1. Make candy in *ordinary* way and pour in the honey after removal from fire. In the quantity named we should only use ¼ lb. of honey and then add the naphthol beta. "Tate" sugar is quite suitable for the purpose.

M. P. (Lanarkshire).—Comb is affected with foul brood. Correspondents should send samples of comb just as taken from the hive; not crushed up and contents of cells poked out or disfigured.

Editorial, Notices, &c.

PERSONAL.

DEAR FRIENDS,—My family and I have been quite touched by the flood of loving sympathy extended to us by our friends. By every mail a large number of letters have been pouring in, not only from friends in England, but also in all parts of the world. Nor have bee-keepers been behindhand in expressing their sympathy—first, at the meeting of the Council of the British Bee-keepers' Association; then at the Conversazione; and subsequently by letters from those known to me personally, and also from many whom I have never met.

As it is quite impossible—much as I should desire it—to answer individually all the kind and sympathetic letters we have received from the many friends and subscribers to the BRITISH BEE JOURNAL and *Record* we feel obliged to tender our thanks in this manner, and wish to assure all those who have so lovingly remembered us, that the thought of our being so sympathised with and prayed for has indeed been a source of much consolation to us in our sorrow.

At first our trial did seem almost overwhelming, but very soon we were able to recognise our Father's loving hand in it all, by the assurance He sent us that all was well with our dear ones. Their bodies were so quickly recovered absolutely unharmed by the cruel rocks they had been tossed among, and the beautiful look of holy calm upon their faces testified that they had died as they had lived, and to their entrance into glory, so that we could not but feel that, although taken from us, they were present with the Lord. So our hearts were comforted, and we felt indeed that they were not lost, but gone before.

Thanking you all on behalf of my family and myself for this mark of your loving esteem,—I remain, yours faithfully, THOS. W. COWAN.—*Loomis, California, November* 16, 1898.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held on Friday, December 2, at 105, Jermyn-street, S.W. Mr. E. D. Till occupied the Chair, and there were also present the Hon. and Rev. Henry Bligh, Miss Gayton, H. W. Brice, W. Broughton Carr, J. M. Hooker, J. H. New, E. Walker, T. I. Weston, and the Secretary. A letter was read from Mr. W. O'B. Glennie, apologising for his enforced absence. The minutes of the previous meeting were read and confirmed. The report of the Finance Committee was presented to the meeting by Mr. Weston, and included a recommendation of the Committee that cheques be drawn for payment of prize money offered by the Association at the recent Dairy Show, and for a further investment in the Post Office Savings Bank, on "Modern Bee-keeping" account. The report was unanimously adopted. A statement was made in respect to the fund being raised for augmenting the prizes at the next Royal Show, and an earnest hope was expressed that bee-keepers generally would liberally respond to the appeal of the Chairman through the columns of the BEE JOURNAL.

A communication from the Wilts County Council, asking for particulars as to the cost of a course of instruction in apiculture in one or two centres of that county, and whether the Association would recommend a competent teacher, was received and dealt with by the Council.

The Secretary was instructed to communicate with the Board of Agriculture, urging the advisability of the collection and publication of statistics on bee-keeping in England, similar to those now issued in respect to Ireland.

In accordance with the suggestion made at the last Conversazione, it was resolved to abandon the gathering of members in May next, May being a month unsuited to the convenience of country members wishing to attend these meetings.

The Chairman read a letter from Mr. W. O'B. Glennie, resigning the office of Treasurer to the Association at the close of the present year, consequent upon his leaving London for the West of England. The resignation was received with regret, and on the motion of Mr. Carr, seconded by Mr. J. M. Hooker, a resolution thanking Mr. Glennie for his valuable services to the Association, during a long number of years, was passed unanimously.

Mr. Till further read a letter from Mr. Cowan in acknowledgment of the vote of sympathy recently passed by the Council, and the receipt of the letter was ordered to be notified on the minutes of the meeting.

PRIZE FUND.

FOR INCREASING PRIZES AT "ROYAL" SHOW.

Sums received or promised :—

BRITISH BEE JOURNAL	£1	1	0
E. Longhurst (Kent)	0	10	6
Mrs. Longhurst (Kent)	0	10	6
F. W. L. Sladen	0	10	0
Edwin H. Young	0	10	0
E. A. Cannell (Swanley)	0	10	0
Hubert F. Jolly	0	10	0

"ROYAL" PRIZE FUND (*continued*).

J. Castleman Brown	£0	7	6
Mrs. Charlotte E. Watson ...	0	5	0
H. W. Brice	0	5	0
E. D. Till	0	5	0
J. M. Hooker	0	5	0
Ernest Walker	0	5	0
W. B. Carr	0	5	0
T. I. Weston	0	5	0
A. J. Carter (Billingshurst) ...	0	5	0
J. H. New...	0	5	0
H. H. Woosnam (Newton Abbot)	0	5	0
W. Woodley (Newbury)	0	5	0
Mrs. H. W. Brice	0	2	6
"A Lady" (Sussex Apiary) ...	0	2	6
H. Brice, jun.	0	2	6
H. W. Seymour	0	2	6
"J. B." (London)	0	2	6
J. S. Greenhill	0	2	6
G. Dow (St. Mary's Cray) ...	0	2	0
S. W. Daniels	0	2	0
"T. B." (Beckenham)	0	1	0
F. G. (Keswick)	0	1	0

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

"SENDING ROUND THE HAT."

[3482.] Referring to Mr. H. W. Seymour's acceptable half-crown dropped into "the hat" last week, allow me to assure him that the capacity of the "hat" is ample, and as to the strength of brim he need not fear its breaking down. I hope to see it *brim*-ming over!

Will you allow me at the same time to say to those who are meditating a response to my appeal, that it is of all importance to send, what they intend sending, quickly! We met in Council last Friday, and although most thankful to see an encouraging response to our request, the amount was nothing like sufficient. Of course, the appeal was only a few days old, but as the schedule *must* go to press in time for the Royal Agricultural Society's next meeting I am more than ever desirous to say how important in our present case is *promptitude*.

I will take upon myself to promise (as Chairman of the Kent and Sussex B.K.A.) a donation of £2 10s., and I hope this example will lead other County Associations to come to the rescue. We *must* have liberal prizes, and we are wholly dependent on the liberality of our bee-keepers. I see my letter erred in its Latin. I fear it will have shocked the pedagogues. It shocked me when discovered. I cannot charge that universal scapegoat, the printer, as by no sort of ingenuity can I make "bis" out of "quis"! I am glad to see, however, that sending round the hat (or the helmet?) has no less authority than Lord Rosebery, who quotes in his appeal for the Gordon College, "Date obolum Belisario" (Give an obol to Belisarius), otherwise Lord Kitchener of Khartoum.—E. D. TILL, *Eynsford, Dec.* 6.

NOTES BY THE WAY.

[3483.] We are now within three weeks of Christmas and the weather continues mild, only one or two slight frosts to date, to-day (December 5) the bees have been quite busy on the wing. To those who have been late in packing up their bees for winter, I would counsel that the only disturbances of the hives at this period of the year should be placing a cake of candy over the feed-hole, or, better still, over the cluster of bees. One of our experts, whom I met the other day, told me he had just been requested to examine and pack up an apiary for the winter, but that he declined doing anything of the kind, except so far as seeing that each hive contained sufficient food for winter. People who make requests like this are generally those who cannot understand how it is that they have such "bad luck" with their bees year after year.

Exhibits at Shows and Railway Companies.—There was a reply to a former "Note" of mine in your pages *re* railway charges for small parcels of honey returned from shows. I believe it was from one of the experts of the B.B.K.A. who, if I remember aright, managed to escape the extra cost on a return journey. This good fortune I had never yet experienced until I sent exhibits to "Dover Show," and then the return charge was the same as the charge for sending to the show, and I attributed the charge to the words printed at the top of the label, viz., "Agricultural Produce." May I advise secretaries of the various bee associations and honey shows to make a note of this and endeavour to follow the good example set by the Kent and Sussex B.K.A., or, at least, kindly bring the matter to the notice of your show committee in future years so that we who exhibit may have the satisfaction of paying the minor rate for our returned exhibits. It only needs to head your labels "Agricultural Produce." The question of a separate box for each exhibit has already been commended to the readers of this Journal many times, but will bear repetition, especially at this dull period of the year, when those who hope to enter the lists another season may make suitable boxes in the long winter evenings. I say this notwithstanding the fact that the "spring travelling crate" has been advocated as a panacea for all the jars (!) that exhibits of honey receive at the hands of those careful (?) railway porters. Curiously enough, I have myself seen sections of honey arrive at shows in these spring crates in a damaged condition. I well remember one of our noted appliance

dealers expatiating on the merits of the spring crates as an absolutely safe method of sending honey by rail, and in order to show the amount of "jarring" the crates would bear without damage to the contents, the speaker let the crate containing a dozen sections drop on the floor a short distance, but this proved a "drop" too much for the beautiful sections, as three-quarters of them were damaged! I need hardly add the crate, with the broken sections, were quickly disposed of under the table, and the pæan of praise cut short.

That sections of honey can be sent long distances by rail if carefully packed I have practically proved for nearly twenty years, and I have never used or found any packing better than meadow hay, with the boxes large enough to allow of a good cushion of hay at the bottom and around each side to ensure safe transit.

Worked-out Combs.—Those worked-out combs which I carefully stored from last season again proved the stepping-stone to success this year, securing a good "take" of as fine comb-honey as I have ever had. I do not believe I should have had one-third the quantity of "selected quality" comb-honey by using foundation only during the season of 1898.

Foul Brood.—The fact that in numerous cases diseased bees with their queen (all the adult population of a foul broody colony) have been cured of the disease by simply shaking them into a box and confining them a few hours, then putting the bees back into the hive on starters of foundation, shows that the adult bees if not immune do not carry the infection with them to the clean hive: otherwise there could not be a cure by such simple means (with no chemicals or drugs to aid in clearing the digestive organs of the nurse bees before the larva requires feeding), after the new combs are built and the eggs are hatched. These facts are patent to all who have given the method a trial, and when carried out at the opening of the honey-flow no feeding of any kind is required. Your correspondent Mr. Brice (3466, page 471) opines that I know nothing of the nature of artificial cultivation; simply because in referring to the method of purifying or disinfecting hives with petroleum I suggested that our scientists should investigate the question whether the oil was the microbicide, or the "burning out." Possibly a good scrub out with carbolic or other disinfecting soap and boiling water may prove as effective and trustworthy a method as the rough and ready one of oil and fire. Mr. McEvoy (who claims to have cured hundreds of foul broody stocks in Canada) asserts that hives do not require disinfecting or washing out except contaminated honey is spilt on the hive. This he contends is the only method of propagation or infection, viz.: the robbing or carrying of honey from a diseased colony, and others who have had experience with foul brood have proved that he is right in his assertion.—W. Woodley, *Beedon, Newbury.*

BEE NOTES IN GENERAL.

[3484.] *Foul Brood.*—Though I have never been troubled with foul brood—that dread pest to bee-keepers in general—I should not be inclined to take such active measures against it, as I see so often recommended, were my hives to become infected with it. Of course, with a badly-infected hive there is only one method of dealing with it, viz., by destroying all combs, frames, and wraps. The bees I should be loath to destroy if any number remains, for I believe the spores of the bacillus alvei cannot injure them. I am an advocate for young queens—*i.e.*, not over three years—cleanliness, and ventilation; and I think that as consumption has diminished in England owing to improved sanitation, so will foul brood be checked. I believe the bacillus alvei is to bees what the tubercular bacillus is to human beings, and once a stock suffers from its ravages a cure is difficult, but not impossible in the early stages, and no experienced bee-keeper ought to allow it to get beyond control in his own apiary at least. Medicating the food may act as a preventive, but any drug which will destroy the spores of the bacillus alvei will destroy the bees also, so it can only be given in a dilute form as a preventive, and not as a cure except in the early stages. In this way the spores of bacillus alvei may be prevented from germinating although present in the hive.

Braula Cœca.—Last summer I saw a black beetle in the neighbourhood of my hives covered with what I believe was a number of these insects, and some time after I noticed one of my hives (a straw skep) infected with the braula cœca. Can the bees have got the infection from the beetle?

The season in this district has been fair on the whole, but the honey has been spoilt to a great extent owing to honey dew. The heather was splendid, but the bees did not get as much honey from it as I have known in seasons when the heather was not so fine, and many sections were left unfilled.

With regard to feeding back unfinished heather sections, I find it very difficult, almost impossible, to get the bees to clear them out, as it is so late in the season, and there is no alternative but pressing them, and so losing the worked-out comb, which I consider a great loss, in spite of what has been said in favour of foundation in preference to partly drawn-out sections.

I have a "Wells" hive, and my experience has not been satisfactory, and to any one contemplating having one I should give them *Punch's* advice, "Don't."

There is very little information in bee books about the best method of procuring heather honey, and I should like to see it discussed in the Journal. I have tried Simmins' plan of young queens contracting brood nest feeding before the season, &c., but am of opinion that we don't get the bees

to work to the best advantage in the supers. I find bees will always keep it near them in the brood nest and it is difficult to get even young queens to lay so late in the season. I believe in some system of working at the side or under the brood nest.—W. E. L. A., *Lake District, December* 3.

WHEN DOCTORS DIFFER.

WHAT ABOUT THE CANDY?

[3485.] That "doctors differ" has become a proverb. Amongst bee-men it should read "candy makers" differ." To oblige a friend I had a hunt lately through the back numbers of JOURNAL and *Record*. I searched for a recipe for bee candy, and I found it. I also found more than I wanted. I don't know if in this case it follows that "in the multitude of counsellors there is wisdom." If so, I should have found it. But a sceptic might have some doubts. I have had dreams ever since—day dreams and night dreams—of pints, half pints, and gills; of raw sugar, refined sugar, beet sugar and cane sugar; of spoons and half spoons, big spoons, and little spoons, filled and partly filled with cream of tartar. All seem to be rolled away in a sort of jumble somewhere in my brain. All agree to disagree; all differ. Yet out of this chaos, somehow, in my waking hours, I evolve soft candy, bee candy—candy such as *Apis mellifica* delights in.

One candy maker goes in for more sugar, another less. That is all right. Every bee-man must be a law unto himself as to the quantity he requires. But how about the water? For variety comes in here irrespective of any law of proportion. In making 5 lb., 6 lb., or 7 lb. some use 1 pint, others 1½ pints. As to time, one says two minutes, another ten, and another thirty. One says half a teaspoonful of cream of tartar, a second a whole spoonful. I wonder, are both right, or are we to take both *cum grano salis?* By the way, that reminds me that some advise salt to be added—½ oz. one says, a pinch says another, half a teaspoonful says No. 3; and a "canny Scot" says "salt to taste!" Whose taste, I wonder? The bees? If so, what test have we of their taste, and who can vouch for the quantity? Does it matter? Does it make any difference? are pertinent questions; but in regard to salt, water, and cream of tartar, within reasonable limits, I conclude it does not.

Salt is a cipher. In measuring your cream of tartar you may shut your eyes, dip in the spoon, and take it out half, three-quarters, or quite full. There is no cause either to carp like our Keswick friend over the size of the spoon. Who that likes a glass of wine would quarrel with the size of it—unless it is too small. So with the water. When we find Mr. McNally giving 1½ pints to 7 lb. of sugar, Mr. Brown the same quantity to 10 lb., and Mr. Raitt 2 pints to that weight, it proves my contention right. When we see Mr. Woodley adding only a half spoonful to 6 lb., and the "Guide Book" a whole one, while Mr. Raitt gives only half to 10 lb., I opine my logic must be right. In regard to time, logic seems against my conclusion. A can't do in two minutes what B takes thirty to do. The disparity is extreme. Yet Mr. McNally starts with two minutes, other excellent authorities say ten, and a "Queen Bee" from Bridport sent you some which she had boiled for thirty minutes (see B.B.J., '97, page 70), and your verdict of it was "excellent," while you added "could not be better." I was nonplussed at first by all these glaring disparities till a happy thought struck me. We in Scotland, you know, like porridge. In our farm kitchens the men like it boiled two minutes. I like mine to boil well on to thirty. Both make good porridge. On the same principle all these mixtures make good candy. I have proved it! Here is a handy table giving a few of them. And any reader can take his choice:—

Maker.	Time Taken.	Sugar.	Cream of Tartar.	Water.	Salt.
	min.	lb.	Tea-spo'nful	pints.	
Mr. McNally	2	7	1	1½	—
Mr. R. Brown....	10	10	½	1½	Salt.
Mr. Woodley	10	6	½	1	,,
Mr. Raitt.....	10	10	½	2	,,
"Guide Book"..	Till ready	6	1	1	—

December 2, 1898. F. E. I. S.

(*Correspondence continued on page* 486.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Mr. Leeding, whose apiary forms our bee-garden picture this week, is one of the many readers whom we have peculiar pleasure in "printing." In other words, he does not keep his bee-work confined within his own garden, but starts an association in his district for the good of the craft, and acts as its honorary secretary; which means its mainstay so far as "work" goes. To enlist the help of his "Vicar"—and make a bee-keeper of the latter, too—and in the end spread the cause of bee-keeping over so many villages, is very commendable, and we commend our friend accordingly. For the rest we let him speak for himself. He says:—

"I have been delighted with various 'Homes of the Honey Bee' that have appeared from time to time in the B.J., and though my apiary is a small one it affords me so much pleasure that I thought you might perhaps give it a place in your most valuable paper, just to encourage other bee-keepers in a small way. Before 1890 I knew nothing at all

about bees until a friend gave me a few ideas as to the method of putting the 'busy bee' to an interesting and profitable use. This friend kindly helped me to start with my first swarm, for I was, like many others, rather afraid of them for a time. But that time is now past. I made up my mind to be a bee-master if I kept bees, and up to the present time I may say my bees have been a source of great pleasure to me.

"I started bee-keeping in May, 1890, with one hive, and eventually increased until I have as many as my spare time allows me to attend to. I make my own hives—buying the frames—but on starting fell into the mistake of trying to make frames and all, and this, too, with no knowledge of the Standard frame. So in consequence both hives and frames were strong, but of odd and improper sizes. Soon afterwards, however, I learned of the BRITISH BEE JOURNAL, and ever since I knew there was such a periodical I have taken it in, and have learned much from its pages, and look forward each week for more information. For one thing, my hives now all take frames of standard size.

"If not trespassing too much, I should like to say that in '93, through the 'Useful Hints' we saw in the JOURNAL, my friend and I made an effort to start a bee-keepers' association for the district of Yetminster. We had a talk with our vicar about it; he did all he could to help us, first by becoming a bee-keeper himself, and second by rendering us all the help he could to form the association. I am glad to say we have now a very good working district association, with forty members scattered among eight or nine villages. As a result of the work done, skep bee-keeping has died out, and is replaced by bar-framed hives.

"I have been very successful with my own takings of honey, and at our local shows, when exhibiting, get a fair share of prizes, especially at our annual show, so that my bee-keeping gives me both pleasure and profit. This, however, I must give my wife credit for, as she takes much interest in preparing the honey, &c., for showing. When the photo was being taken I had just removed a bell-glass super of comb honey, which same glass I have taken first prize with for three years in succession, and hope to have it nicely filled in the coming season. I only work one hive for filling these bell-glasses and one for sections, the others being run for extracted honey. As I have more sale for the latter than for comb honey, I try to work accordingly.

"The friend shown in the photo (not the one who helped me to start) and myself have worked together, helping each other in the bee-keeping line for some time past; but my bee work has all to be done in the early morning hours or evenings, occasionally for a short time at midday. The broad-leaved foliage in foreground is beetroot; the background being a box hedge facing south-east."

MR. G. LEEDING'S APIARY, BRADFORD ABBAS, SHERBORNE, DORSET.

CORRESPONDENCE.

(*Continued from page* 484.)

WAX RENDERING.

HOW IT IS DONE IN THE TRADE.

[3486.] To those of your readers who save old combs and cappings for melting down, a brief description of how wax is rendered by the trade wax bleachers for the purpose of making wax candles might be of some interest. Having a small out-apiary in the bleaching grounds of a large candle factory, my attention was naturally directed to the tons of wax going through the process of rendering. The bees-wax, brought from all over the world, is first melted by steam in large vats and a certain quantity of vitriol added to settle all the impurities—called dross—to the bottom. The wax is then run through a perforated trough on to a large roller or drum revolving in a tank of cold water. This causes the wax to form into small flakes which are collected, laid out on long tables in the grounds and exposed to the air for about six weeks. By this time the wax is quite white, and after three meltings, in a temperature of over 200 degrees to improve the colour, is poured into moulds, these being nothing more than large rings placed on a board, filled and floated in a cold water tank to cool.—J. H. C., *Teddington, December* 1.

BUCKWEED HONEY.

[3487.]—I am sending by this mail a parcel containing a bottle of honey gathered at the time the buckweed was in flower, in accordance with Mr. Till's request in the B.B.J. (3377), and should be much obliged if you would also give your opinion of it, which I propose to forward to the agricultural department here, as it would be of interest to bee-keepers generally.

There is a decided spurt in bee-keeping just now, several having started, and I hope it will be taken up generally in time, as there is a good honey flow in some parts of the colony.

Bees have had a hard time lately, in consequence of a very cold winter and late spring rains, which spoilt the fruit-tree harvest.—A. C. SEWELL, *Durban, Natal, Africa, November* 5.

P.S.—Mr. Till need not trouble about the cost, but if he could send a few seeds of his white mignonette and "Chapman" honey-plant, I should like to try them.—A. S.

Mr. A. C. Sewell's letter from Durban of November 5, as printed above, and the sample of buck-weed honey, so simply and securely packed in bamboo, are very acceptable contributions. Mr. Sewell's prompt response in so practical a form shows the benefit which flows from the circulation of your BRITISH BEE JOURNAL among bee-keepers of enterprise in Greater Britain. May I again use your good offices to convey my thanks to Mr. Sewell, and to say that I will visit Messrs. Cannell & Sons, of Swanley, and take care to send out a little assortment of seeds which may be of use to him apiculturally. Also, when the sample of buck-weed honey has been properly tested, Mr. Sewell shall have further word.—E. D. TILL, *Eynsford, Kent, December* 6.

FILLING THE HAT.

[3488.] I enclose 5s. to help to fill up the "Hat." I hope you will not be able to find one large enough to hold all you receive without bursting it, and that we shall get better prizes offered at the Royal for the time to come and fair play in the judging. It seems to me that we want more classes in honey for the different colours and grades and in sections separate classes for those with white cappings apart from yellow sections.—A. J. CARTER, *Billinghurst, December* 3.

EARWIGS.

CAN THEY USE THEIR WINGS?

[3489.] May I be allowed to still further add a few details to mine of last week?—for although the earwig *is* so common, its life history is particularly interesting, and we bee-keepers have much to do with them indirectly. Referring to Dr. Percy Sharp's remarks on the above subject (3467, page 472), "that, owing to the abnormal circumstances by which the earwig was surrounded, it *forgot until too late* (the italics are mine) the accessory means of locomotion which it had encased," and so forth. Now, may I state that, capable as the earwig may be of *forgetting* such an important fact when its life depended on it, yet, perfect as its wings may be, and are, it has to perform some kind of operation with its forceps in order to release the posterior wings from under its elytra? In the excitement and confusion had it *opportunity* and time to do this?

The reason is this, that as the insect folds its wings as a fan, it has at the same time to tuck them under *twice* like a plait, to use a familiar expression (the process is rather hard to describe, but trust your readers will understand me). This being so, it is a curious fact that the assistance of the horny forceps is required to open and fold them under their anterior wings.

The latter wings are called tegmina, and though greatly resembling the elytra of the Coleoptera, are less hard and leathery rather than horny in their texture, as is the case with beetles. In this respect they so closely resemble the *Staphilinidæ* (as I said last week) that Linnæus placed them at the end of the Coleoptera, whereas they belong to the order of Orthoptera.

The species albipennis (Westwood), which can be taken here in the season in shrubberies and the like, possess only the anterior wings;

whilst *Chelidura acanthopygia* (Lat), also to be found here in the woods, is quite wingless. Though all these fly by night, the very small species, called *Labia minon* (Leach), flies by day.

I believe I am right in saying that, common as the *Forficula auricularia* is, it possesses two of the most *curious*, *wonderful*, and *remarkable* yet at the same time *beautiful* wings to be seen and studied in the whole insect world.—R. HAMLYN-HARRIS, F.E.S., *Villa Rominger, Tübinger, Germany, December* 3.

BUYING BEES.

A CASE FOR ARBITRATION.

[3490.] I hope you will give me space for a line or two in reply to Mr. Sutton (3479, p. 475). I am therein charged by your correspondent with taking up a "hostile position" in connection with our dispute; but, on the contrary, it is he who has taken up a hostile attitude. He prefers to take the word of the railway company to that of Mr. Herrod, although they did not see the contents of the packages at all, and allowed me to take them away without signing for them. Mr. Herrod, a skilled expert, said it was solely due to packing they were damaged. In corroboration of this I can get the evidence of a gentleman in whose presence the bees were unpacked, and whose address is at Mr. Sutton's disposal should he desire it. Besides, surely my own word is quite as good as that of a railway company!

With regard to returning the bees, I advised the station master of the damage, and also wrote Mr. Sutton to the same effect, and if he had desired the return of the bees, he could have asked for them, as they were lying on one side for some time before I finally burnt them to avoid disease.

I am exceedingly sorry the junior editor of the B.B.J. is unable to act as arbitrator; but as he cannot do so, why not ask Mr. Edwin H. Young, Sec. B.B.K.A., to decide for us? Or else let Mr. Sutton name his own arbitrator. Failing this, any reasonable man must admit that Mr. Sutton is the hostile party. Anyway, I only want what is fair and right. Apologising for taking up your valuable space.—H. J. B. M., *Liverpool, December* 3.

ENTOMOLOGICAL.

[3491.] Referring to my note (3459, p. 467), I desire to thank your correspondents for kindly replying to my query as to mating of different species of insects. My thanks are especially due to Mr. Hamlyn-Harris for pointing out my mistake in designating them as *Apis terrestris* and *lapidarius* instead of *Bombus terrestris* and *lapidarius*. My knowledge of wild bees is, however, very limited. I have had to rely on out-of-date books by Linnæus, Donovan, and Jardine for help. But the point I wish to bring out is whether any one has actually seen the fertilisation of any queens. To Mr. F.W. Sladen my answer is I am not sure they were the species mentioned, but, as far as my knowledge goes and I could judge, I believe they were.—EDGAR WILSON, *West Norwood, December* 3.

UNFAIR EXHIBITING.

[3492.] In reading over to-day my letter, which you were good enough to publish (3476), it has occurred to me that my meaning is not quite plain on one point. In line 21 "the district" should have been "*his* district"—*i.e.*, within a radius, say, of four miles, where several well-known exhibitors—*e.g.*, Messrs. Dodd and Evans—reside, who have been unable to procure a single good sample of honey for exhibition in 1898.

In my last letter I asked a question which I hoped some of your readers—*e.g.*, Messrs. Woodley, Seymour, Sharp, Loveday, &c.—will discuss. May I put another to you and them? Is it possible to keep unripe honey from one season to the next, then feed it back to the bees, so that when it is again extracted it has the flavour, consistency, and brilliancy of colour of a really first-rate sample of honey which has only been gathered by the bees once? If it can be so kept it will be a grand solution of what to do with unripe honey. My own opinion is that it would ferment and become well-nigh worthless.—FAIRPLAY, *Chester, December* 2, 1898.

DRAWING OF BEE HIVES TO SCALE.

[3493.] I am sure the suggestions of "A Beginner" (3471, p. 473), is a good one. Not only would beginners be glad to obtain a copy, but many others, including myself. But I would suggest that it should be printed in pamphlet form and the profit go towards the "Royal" or Dairy Show. Your correspondent, Mr. Robt. Peebles, writing on the W.B.C. hive (page 447), said he did not see why it should not be made as plain as A B C; and said it should be, and I expected an illustration something after the suggestion of "A Beginner." Cannot we have it in this form, Mr. Editor, and be made as plain as A B C?—J. P., *Derby, December* 5.

[We printed the letter of "A Beginner" (3471, p. 473), mainly for the purpose of ascertaining whether or not any want of such drawings would be notified by readers. The above being the only response, we are free to say that the figures given by Mr. Peebles are so simple and easy to understand that any one capable of using a foot rule can hardly go wrong in working out the measurements. It is, indeed—in Mr. Peeble's own words—as plain as A B C. For ourselves, and as "J. P." apparently considers that there is "money in it," we cheerfully surrender all, or any, prospective profit to whoever may think that such drawings would pay for their production and distribution.—EDS.]

NOTES FROM SOUTH BUCKS.

[3494.] *Clearing Up.*—As with the closing weeks of the year, so too do I always make it a point of clearing up the remnants of the season's work. And not until all odd pieces of wax have been melted down, supers and such like appliances used during the busy season been overhauled, and those repaired that needed such have been seen to, do I consider my clearing up for the season complete. I then prepare my plans for another year, and in the case of dividers always use tin ones, as with these the propolis is so easily removed by boiling in a saucepan. But (unlike Mr. Till, when he melted the wax in the copper), I have to clean it myself after using.

Honey Bottles and Sections.—Of late years some very beneficial improvements have been made in the way of sections, but not so with regard to glass jars or bottles. I refer now to the ordinary 1-lb. screw-cap jars, and I do think that it is now time something should be done by dealers in bee-appliances in this respect. The improvements I suggest is the "price" and the "quality." I have tried several dealers this last season for bottles, and they all seem alike, so far as blemishes in the glass; and more often than not I find a great rib from top to bottom. Out of a gross of bottles you cannot pick a single dozen that has not a disfigurement in this respect. I certainly think this ought not to be, considering the price we have to pay for the same. The price of screw cap jars makes one think twice before he sells his produce in such receptacles—seeing that out of each jar of honey sold I have to deduct twopence of my profits.—G. SAWYER, *Marlow*.

A CHEAP COMB STAND.

[3495.] To make an improved "comb stand" which is readily portable and requires little skill, and that may also be used as a temporary hive, cut eight pieces of wood about $\frac{1}{2}$ in. by $\frac{7}{8}$ in., four of them about 2 ft. 6 in. in length, two about 1 ft. $4\frac{1}{2}$ in., and two about 1 ft. 8 in. Take two of the 2 ft. 6 in. pieces, and after marking lines at about 6 in. from one end, and also at centre, lay them upon each other (flatways), and put through at centre line a 1 in. screw (not too tightly), so that they will lie in the shape of the letter X. Then serve the other pair the same. Next nail on at top the rail (the piece 1 ft. $4\frac{1}{2}$ in.) in front elevation under frames, then nail on at about 6 in. from end the rail (1 ft. 8 in.). It will now resemble a side of a camp stool, and if a piece of string is fastened to lower rail and regulated till top opening is $14\frac{1}{2}$ in. wide we shall then get a very light and serviceable comb stand. The size here given will make a stand about 2 ft. high (about hive height), and to hold nine frames. It can, of course, be made any other size to suit any odd pieces we may have by us. If it is desired to use stand as temporary hive, nail on all round stout canvas, as shown by dotted lines. It will then be useful for this purpose or to shield bees, &c., from windy weather.—W. H., *Richmond*.

Echoes from the Hives.

Hatfield Heath, Harlow, Essex, December 5.—The weather continues mild and open, though we have had some short intervals of frost and cold rain, with just a dash of snow. Yesterday the bees were flying as they usually do in spring; in fact, these three days have been warmer than we sometimes have the weather in May, but the wind has been very strong from the west, and at night we have had violent gales, which would cause much anxiety but for the large stones with which the hive roofs are weighted. I noticed yesterday that two-thirds of the flying bees entering one of my hives carried pollen from the flowers of ivy. I had occasion to look into this hive in the second week of November, and saw batches of brood on both sides of three combs, and, lifting a comb, I saw that the queen was still laying freely. The open weather has allowed seedling plants of white clover and other plants useful as bee-plants, to recover from the effects of the drought; but tender growths are now being made that will be nipped by severe frost, should it come later on. The buds of the palm-willow and the catkins on the hazel look plump and promising for the spring. Already I hear of primroses having been gathered.—WM. LOVEDAY.

Queries and Replies.

[2131.] *Moving Bees.*—Many thanks for your reply to my query (2130, page 478). As to point 3 in the same, I may say soluble phenyle was used in the proportion given in Cowan's "Guide-Book." I have just had a present made me of seven stocks of bees, and am rather in doubt as to how to move them. I shall have a two hours' railway journey and three miles by road. The weather is so cold, I am afraid to open the hives and secure the combs, or I could manage. I believe one or two are in skeps, and the rest in frame-hives. If you would kindly give me your advice in the matter I should be greatly obliged. It struck me that perhaps it might be best, if possible, to leave them where they are until the spring, though, of course, I would prefer to have them where I can keep an eye over them.—L., *Radnor, December* 3.

REPLY.—If possible, leave the bees where they now are till the weather is cold enough to keep them indoors for two or three weeks. Then move carefully, and, when on the new

stands, put up some temporary contrivance that will alter the outside appearance of entrances so that the bees will notice the changed look of the hive. This done, no bees will follow.

[2132.] *Zinc Cylinders for Extractors.*—Being in want of a honey-extractor, and seeing that one was for sale at an auction which I was unable to attend, I commissioned a friend to bid a moderate amount for me. Unfortunately, he was not a bee-man, and, though the cylinder was of zinc, he bought it and drove home with it in triumph. It is thoroughly good in every other way, but I know zinc is deleterious to honey. If, when extracted, it is run off *immediately*, will the honey be any the worse?—NORTH HAMPSHIRE, *December* 5.

REPLY.—There is no doubt that tinned iron is the best material to use for cylinder extractors, but we used one with galvanised iron cylinder for several years without any appreciable damage to our honey. This being so we cannot think that any harm will follow unless the honey stands in the extractor for a very long time.

METEOROLOGICAL

OBSERVATIONS TAKEN AT DUDDINGTON, STAMFORD, NORTHANTS, FOR THE WEEK ENDING DEC. 3, 1898.

1898.	Bar. in.	Tem. 9 am deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in.
Nov. 27....	29·00	37·7	44	36	8	40·0	—
,, 28....	29·30	36·5	40	30	10	35·0	—
,, 29....	29·48	34·9	39	33	6	36·0	—
,, 30....	29·65	33·5	49	29	20	39·0	·06
Dec. 1....	29·76	49·0	53	33	20	43·4	·01
,, 2....	29·53	53·2	56	49	7	52·6	—
,, 3....	29·74	45·0	55	43	12	49·2	—
Means	29·49	41·4	48·0	36·1	11·9	42·2	*·07

* Total, ·07.

Mean vapour tension, 0·224 in.; mean relative humidity, 84 per cent.; mean temp. of the dew point, 36°·6. The rainfall, viz., ·07 in., = 1,583·61 gallons, or 7·07 tons to the acre, or 5·6 oz. to the square foot. For the week ending November 26, the mean temp., viz., 38°·7 (not 38°·6 as sent in error), was −2°·8, and the rainfall viz., 1·34 in. + ·66 in. The rainfall, October 30 to November 26, viz., 1·79 in., is −·74 in., and that January 2 to November 26, viz., 17·00 in., −6·89 in.

FRED COVENTRY.

METEOROLOGICAL OBSERVATIONS FOR NOVEMBER, 1898.

Barometer.

Highest, 30·32 in., on the 18th.
Lowest, 28·80 in., on the 25th.
Range, 1·52 in.
Average height, 29·78 in.

Thermometers.

Highest Max. Shade Temp., 61 deg., on the 2nd.
Lowest Max. Shade Temp., 37 deg., on the 22nd.
Highest Min. Shade Temp, 51 deg., on the 3rd.
Lowest Min. Shade Temp., 24 deg., on the 23rd.
Range, 37 deg.
Greatest Daily Range, 23 deg., on the 2nd.
Least Daily Range, 5 deg., on the 3rd.
Highest Shade Temp. at 9 a.m., 52 deg., on the 2nd and 3rd.
Lowest Shade Temp. at 9 a.m, 33·0 deg., on the 22nd and 23rd.
Highest Mean Daily Temp., 53·5 deg., on the 3rd.
Lowest Mean Daily Temp., 31·5 deg, on the 25th.
Mean of Highest Daily Readings, 49·6 deg.
Mean of Lowest Daily Readings, 38·4 deg.
Mean of Daily Range of Temp., 11·2 deg.
Mean Temp. for the Month, 44 deg.
Number of Days Frost in Shade, 4.
Mean of Dry Bulb Readings, 43·4 deg.
Mean of Wet Bulb Readings, 41·9 deg.
Mean Vapour Tension, 0·253 in.
Mean Relative Humidity, 88 per cent.
Mean Temp. of the Dew Point, 40 deg.

Rainfall (including fog).

Number of Days on which ·01 in. fell, 17.
Greatest Fall in Twenty-four Hours, 0·60 in., on the 23rd.
Total Fall in the Month, 1·83 in.
Total Fall January 1 to November 30, 17·11 in.

Referring to the Editorial Note on Mr. Hunton's "Echo" in the B.B.J. for December 1 (p. 478), I have known my grass thermometer, when covered with snow, to register several degrees higher than that in the Stevenson screen, four and a half feet above the ground. —FRED. COVENTRY, *December* 3, 1898.

PREPARING BEES FOR WINTER.

No. 3.

In my last although I called attention to the bad quality of fruit-juice as winter food, I have perhaps not laid enough stress upon it, for I consider, from actual experience, that the results of a supply of this food are deadly to the bees—the more so as they store a great deal of this kind of food when the real honey has failed. This fruit-juice is not honey; it is neither more nor less than cider, which becomes more or less acid, and is positively sure to cause disease. The only way to deal with this food, if one wishes to save the bees, is to extract it out of the combs, and furnish the bees with more wholesome supplies.

Of all the grades of honey for wintering, honey-dew is the worst. Next comes dark fall honey, especially if thin and watery, or if uncapped, as the moisture escaping from the bees will render it still worse. The hygrometric properties of honey are so marked that, during a damp season, unsealed honey will often accumulate moisture enough to overflow out of the cells, and will perhaps besmear the bees as

they first bestir themselves after a period of constrained repose. Hence it is advisable to remove, in the fall, all unsealed honey, most especially if the bees have enough without this. If the quantity is limited, it is not so urgent to remove it, as they usually consume the unsealed houey first, and may get rid of it before the coldest weather, which confines them to the hive for weeks at a stretch.

There is another source of injury to the bees in fall honey, which is heavily loaded with floating grains of pollen, and is the more dangerous that it is least easily detected by the apiarist. These floating grains of pollen are not discernible to the naked eye. The best bee-food for wintering is that which contains the purest saccharine matter, as it is most thoroughly digested by them, with the least production of discharges. Since the bees are often compelled to remain for from three to six weeks, confined to the hive, and during that time are closely clustered together, it is out of the question for them to void their excrements, and when the food which they eat contains a great deal of pollen, or is too watery, they are often unable to retain their discharges, and must either go out and perish or release their bowels in the hive, thus besmearing the combs and their sister bees with the most foul and offensive excrements. In either case it is death.

When the bees are in a cellar, the evenness of the temperature, under proper conditions, enables them to consume a minimum quantity of food, and they stand a much longer confinement with ease, if the food is right, than when out-of-doors. From the above statements, which are based upon over forty years of wintering experience with large apiaries, the reader will readily see that the best winter food is to be found in the very best grades of honey. In a mild winter, as I will show farther, anything will do, for if the bees are not confined they have nothing to fear. When the crop is short, if good honey cannot be had in sufficient quantity, the artificial supply may be provided by adding sugar syrup to a certain quantity of honey, and very good feed may be made by using a mixture composed in the following proportions:—Sugar, 50; water, 25; honey, 25. The water is first heated to the boiling point, then the sugar is thrown in, and after it has slightly cooled the honey is added.

Feeders of all kinds are made, and it is not the purpose of this article to recommend that such a feeder be used as will enable the bees to take their food above the combs, and as close to their brood-nest as possible, to avoid the depredation of heat.

I said that from 25 lb. to 40 lb. were needed, but have given no way of ascertaining the quantity, short of weighing the hive, which is impractical in most instances. Those who are accustomed to handling bees usually judge of the amount by the space occupied with honey, and this is probably the best criterion. We would call a hive sufficiently supplied if the honey occupied about one-half of eight combs, the upper half of course, since bees always place their stores above and behind their brood. But we use hives with ten combs, and like to see these ten combs half-filled at least. Too much honey is better than too little, and if we would have success with bees we should not begrudge them a little more than they are likely to need. But it is necessary for them to have a sufficient space of dry comb at the bottom to cluster on, for they fare much better and keep warmer if they can keep the bulk of their cluster below the honey on empty cells.

We will next consider the advantage of winter flights and of shelter.—C. P. DADANT, in *American Bee Journal*.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

"ENGINEER" (Ilford).—*Honey and Honey-dew.*—The light sample is a fairly good honey, but is showing signs of fermentation. The dark specimen contains some honey-dew, but apart from this the flavour is not good, though its consistency is satisfactory. It may be used as bee-food in spring.

GEORGE ST. JOHN (Warwick).—*Lantern Slides on Foul-brood.*—The slides of the B.B.K.A.—which are hired out to members for a small sum—contain several relating to foul-brood. Messrs. Newton & Co., opticians, Fleet-street, E.C., who publish the set sent out by the B.B.K.A., also have slides of foul-brood bacterium besides, in addition to those referred to above.

APIS MELLIFICA (Swaffham).—*Lamp Nursery for Queen Raising.*—1. We do not know the dimensions of the lamp nursery mentioned in Chestim's Work. 2. Messrs. Blow & Co., of Welwyn, formerly supplied Cyprian queens, but these bees have met with so little favour in this country that we do not think any dealer trades in them.

G. D. (St. Mary Cray).—*Suspected Comb.*—There is foul brood of old standing in comb sent.

F. J. C. L. (Guernsey).—*Syrup.*—The sample of syrup sent is altogether too thin for autumn bee-food—soft candy only should now be given.

SIDNEY SMITH (York).—*Honey Sample.*—The predominating flavour of sample is white clover, of which we call it a good specimen.

ERRATUM.—C. R. BOXALL (New Swindon).—*Experts' Certificates.*—The name "C. R. Boswell," printed on page 431 of our issue for the 3rd ult. should be C. R. Boxall, that gentleman having secured a "pass" at the examination held at Bradford-on-Avon in September last.

*** *Several Letters and Queries are to hand, and will be attended to in our next.*

Editorial, Notices, &c.

THE "HAT" STILL BEING HELD!

I am very pleased to see the funds flowing into the "hat" so steadily, but as every day diminishes our chance of success (for we may any moment have to send the "Royal" schedule to the printers), we hope ample response will crown our effort ere the week closes. I see several lady bee-keepers have kindly contributed. Doubtless other contributions from fair apiarists will fall in before the hat has to be emptied. The smallest sums are welcome.—E. D. T., *Vice-Chairman B.B.K.A., December* 12.

HONEY SHOW AT LUDLOW.

The Annual Exhibition of the Ludlow Chrysanthemum and Fruit Society was held in the Ludlow Town Hall, on the 17th ult. The entries for honey were not so numerous as is usually the case, but the quality of the exhibits was excellent, not a second-rate exhibit being staged. Mr. Alfred Watkins acted as judge and made the following awards:

Six 1-*lb. Jars Extracted Honey.*—1st, T. Salter, Shrewsbury; 2nd, H. F. Beale, Andover, Hants; 3rd, H. Wood, Lichfield.

Six 1-*lb. Sections.*—1st, T. Salter; 2nd, Phil Jones, Church Stretton, Salop; 3rd, Jno. Berry, Llanwrst, N. Wales.

[Above report has been delayed owing to the illness of the Hon. Sec., Mr. Jno. Palmer.—EDS.]

SURREY BEE-KEEPERS' ASSOCIATION.

It being the desire of the Executive Council of this Association to make every effort again next season to assist all keepers of bees in the county of Surrey, and especially those having any stocks affected with foul brood, they again ask all members of this Association to assist them to carry out this important and necessary work by sending from time to time to the Hon. Secretary, Marden House, Redhill, the names and addresses of all bee-keepers that they can discover; and, further, in all cases of disease to give notice to the Hon. Secretary, so that the owners of all diseased stocks may have the advantage and assistance of a qualified expert of this Association appointed to assist them in advising and treating all diseased bees, and so prevent the spread of infection. If all members will kindly assist in this work, as asked, it will be of the greatest assistance to the bee-keeping industry in the county.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of November, 1898, was £953. — *From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

PRIZE FUND

FOR INCREASING PRIZES AT "ROYAL" SHOW.

(*Continued from Page* 482.)

Sums received or promised:—

	£	s.	d.
"A Friend"	1	0	0
Hon. and Rev. H. Bligh... ...	0	10	6
Miss Gayton (Herts)	0	5	0
H. Jonas	0	5	0
R. C. Blundell (Surrey)	0	5	0
Rev. M. W. B. Osmaston (Kent)	0	5	0
Rev. Sidney Smith (York) ...	0	2	6
Rev. W. R. Nightingale (Sussex)	0	2	6
W. Herrod (Newark-on-Trent) ...	0	2	6
John Walton (Weston)	0	2	6
"Richard" (Market Deeping) ...	0	2	0
"A Beginner" (Staffs)	0	1	0
"W. C. H." (South Devon) ...	0	1	0

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17, King William-street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17, King William-street, Strand, London, W.C."*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

PROCURING HEATHER HONEY.

[3496.] Referring to the letter of your correspondent "W. E. L. A." (3484, page 483,) I am glad to notice his remark about raising the question of the best method of procuring "heather honey" for discussion in the JOURNAL, and beg to give my own views thereon:—I tried young queens, but not contracting hives other than lifting out every frame which contained little honey and brood, and replacing with frames of sealed honey and sealed brood, giving about four frames of completely sealed honey and six frames well filled with brood.

I tried this plan on two hives, with the idea that when the bees found four frames of sealed honey and part in others they might have sufficient in brood chamber and place most of the honey gathered at the heather in the supers. Such, however, was not the case, as I was sorry to see that the bees filled nearly five more frames with the result that the queens had little space left to breed in. The queens in question were first and second year ones of '96 or '97.

In another hive tried I made a frame 8½ in. by 12¾ in. (inside measurement), which held 6

—4¼ in. by 4¼ in. by 2 in.—sections over which I fastened on each side excluder zinc to the size of frame. The frames in this hive run from side to side and there were seven of them. I therefore put the frame of sections at back, but it did not fit very well seeing that the size 4¼ in. by 4¼ in. by ⅛ in. = 8⅜ in. caused it to be up higher than other frames and also no bee-way at bottom.

The sections were well filled but partly discoloured; length of time in hive sixteen days.

As this has been my only trial in the direction referred to, I cannot say what might be done by devising some system of working at the side or under the brood-nest, but Mr. "Wells," of Aylesford, is of the opinion that discolouration would result by placing sections *under* brood-nest.

One great disadvantage heather honey producers labour under is the long distance the hives are carried from home, which renders it impossible to visit them more than once or twice a week to note progress, but I hope that W.E.L.A.'s letter may throw a little more light on the best method of producing heather honey.

Regarding "A Beginner" (3471 p. 473, also 3493 p. 487), the idea of drawings or paper patterns is, I think, a very good one, but as the editors say the measurements given are as easy as A B C, and whether or no a paper pattern would be of any great assistance to those who cannot understand the figures given, I am somewhat doubtful, as if the measurements given cannot be followed, would the pattern give any better result?—"CHEVIOT," *Wooler, December* 10.

MY FIRST YEAR "AMONG THE BEES."

[3497.] I note that some of your correspondents have lately been giving their first year's experiences of bee-keeping; so if you think there is anything interesting enough to warrant the insertion of my own first year among the bees, it may, perhaps, find a place in the BEE JOURNAL; and, if not, there will be no harm done. In August, 1897, I attended the flower show at Horsham, Sussex, and there found the bee-tent, with a lecturer sent by the Kent and Sussex Bee-Keepers' Association. So, having already a very slight knowledge of bees as kept on the straw-skep system, I went to the tent wondering if I could pick up any useful hints. On reaching the tent the lecturer was busy driving a stock of bees, and explaining to his audience how to hive and feed them, &c. Some few points I did not quite understand, but he very kindly explained them to me afterwards. As a result, I decided to make a start with bees in a bar-frame hive, and, a few days later, on making inquiries, I found some cottagers quite willing to let me have their bees for the taking. I, therefore, procured two old frame-hives and set to work, driving eight skeps, the bees of which I joined up, putting four lots into each of the hives, on six frames. I gave to each stock about 30 lb. of sugar, and then covered up for the winter. In the spring of 1898 one lot was found to be very strong, the other rather weak, so I fed them again, but only a very little. The strong lot increased very fast, wanting a new frame every week, till they had drawn the combs out and had brood in seven of them. I thought they would be in grand condition for surplus storing. But although I put sections on, the bees somehow would not take to them properly; and, early in June, on a nice warm day, a large swarm issued, which I hived and soon gave some sections to. A few days later I looked through the hive the swarm came from and cut out eight queen cells, leaving, as I thought, only one for hatching. However, in a few days a second swarm or cast issued, which I hived in a skep. The other original lot (called No. 2) were still very weak and only filled a few sections, but never showed any inclination to swarm; and so, at the end of August, I killed the queen, and, two days later, drove the second swarm or "cast" from straw skep and united the bees and young queen to No. 2. On examining again, a week later, I found more eggs in the combs than I had seen in the hive at any time in the whole summer. I have, therefore, now three good stocks, two of the queens being young ones of 1898. They have plenty of food, and I am looking forward to a better season for 1899. From my two stocks I got exactly 50 lb. of honey in comb and extracted, which paid all the expense I had been put to for sugar, &c. I have driven more bees this year, and find people very pleased to let me have them for the "taking," because it saves them from what many think a rather ticklish job.—F. KNIGHT, *Warnham, Sussex, December* 6, 1898.

CHEAP HIVES

NOT NECESSARILY "NASTY."

[3498.] I note that a correspondent in B.B. JOURNAL of December 1 (3480, p. 475) asks: "Have you, Messrs. Editors, omitted the figure 2 immediately preceding that of the 5? Or does 'W. B. L.' (3450, p. 455) mean this to cover material, or does he find material and the costs of making to be 5s.? Or if he produce hives at 5s., of what does it consist?" Now, sirs, I don't know anything of "W. B. L." or his 5s. hives, but my own (I make them) cost me about 2s. 6d., rather less than more, including paint (inside and out).

It may be asked, "Of what material do they consist?" My reply is, packing-cases from our grocery and provision stores, such as bacon-boxes, tinned tongue-and-beef boxes, "Rising Sun" stove-polish boxes and Quaker Oat boxes, &c., nails included, cost from 1s. (big bacon-box) to two-pence each. Of course, I am careful when taking them asunder to damage the wood as little as possible; the

nails, after straightening, are ready for use again.

Paint is my most expensive item, 5d. to 6d. per lb., but one shillingsworth of good paint will go a long way toward putting a nice finish on the job.

I suspect, Messrs. Editors, that there are many of your readers whose hives don't cost them any more than my 2s. to 2s. 6d. each.

I am just now busy providing myself with Mr. Meadows' "non-swarming arrangement" (as illustrated in your issue of July 14 last) to be fitted to my existing hives.

P.S.—Please find enclosed twenty-four stamps for "The Hat."—W. C. H., *S. Devon, December* 10.

BEE-KEEPING IN SURREY.

EXPERIENCES OF THE SEASON OF 1898.

[3499.] I am somewhat late in giving an account of my bee-work for 1898, but better late than never, you know. I commenced the season with eight stocks, all in fine condition, and was looking forward for a record year. Indeed, it was to me a record year to a certain extent, for six of my hives yielded 312 lb. of honey, viz., 204 1-lb. sections, and 108 lb. extracted. The seventh was worked for queen-rearing, and the eighth "went the way of all flesh," prematurely; in other words, I gave them a wee bit of brimstone! Now this hive at supering-time was as clean and as strong as one could wish, but during the last week in June I found they had not done much in the sections, and suspected something wrong. I gave them another week's grace, and then after thoroughly examining the combs I found four combs in centre of brood-nest badly affected with that cursed bacillus alvei! There was a large population of worker-bees, but I determined to have no parley with them, so at 10 p.m. I closed the entrance, removed the rear dummy, and gave them the *coup de grace*, and in less than five minutes the stock was no more.

I should like to take up the cry, "when doctors differ," upon the prevention of foul brood. I have had about eight years' experience with this disease and the preventives used, but have never found it yet. Every year in the autumn and again in spring I give each of my stocks of bees medicated bee-food, and for years kept camphor in hives. I have also of late changed to naphthaline, but still every now and again the disease reappears. It seems to me that the only remedy is to destroy bees, combs, and wraps, and scorch the hive on the inside. A good way I find to give this "scorching" is by using a painter's lamp; or if this is not available to pour methylated spirit over the inside and around the floor-board and then set a light to it. That will destroy all germs and the hive is ready for use in an hour.

This last summer, having been appointed District Expert to the Surrey Bee-keepers' Association, I have visited about fifty members, and examined some hundreds of stocks. In doing this I am sorry to say I found foul brood in the east, west, north, and south of the county. Some of our members' stocks being badly effected.

By the way—and while on this subject of experts' visits to members of bee-keepers' associations—I noticed that one of your correspondents some time ago hinted that experts' work ought not to cost the Association more than sixpence per member. Now, I should like respectfully to inform the gentleman who puts this high value on bee-work that, if he would like to travel 400 miles, occupy himself from start to finish for 148 hours with downright hard work for 25s., I think he can easily get a couple of months' occupation in Surrey next season, so send along name and address, please, to the Surrey B.K.A. There is, as no doubt you, Messrs. Editors, know very well, expert work in its true sense, and there is what *some* experts call "work." I may illustrate my meaning by citing a case that came under my own immediate notice last season:—One of the members I visited had kept bees for four years, and had been visited regularly each season by the "expert" (?) but the latter had never even opened a hive in his presence! When I opened his hives, showed him the queen, and pointed out the brood, the larvæ in different stages, and showed him eggs in the cells, he exclaimed, "This is all new to me! I never saw a queen bee before!" In fact, he seemed amazed at the wondrous work of the honey-bee. And so I say if we want to make our members good bee-keepers, we experts must, as we pay our annual visit, teach them and show them what bee-keeping means. What, I ask, is the good of going to a member's apiary, just ask him a few questions, and tell him what he should do, without showing him how to do it? The expert who gives help will add members to his different associations, and keep them. And so, on the other side, the expert must receive a fair day's wage for his day's work. In a word, Messrs. Editors, my motto is, "Live and let live."—A. H. Miller, *District Expert, Surrey B.K.A., Egham, December* 12.

MR. GEO. WELLS AT WOOLER.

LECTURE ON THE "WELLS" HIVE AND SYSTEM.

[3500.] In the B.B. Journal of December 1 it was announced that Mr. Geo. Wells, of Aylesford, Kent, would give a course of lectures in various districts of Northumberland and Durham during the present month. On Thursday, December 8, Mr. Wells visited Wooler, called the metropolis of the Cheviots from its being situated near the foot of the Cheviot Hills. The lecture was given in the Mechanics' Institute to a large audience, G. P. Hughes, Esq., F.R.G.S., occupying the chair.

Mr. Wells gave a very clear definition of

his hive and system, and showed various appliances, which he fully explained. He also dealt at some length with the question of foul brood among bees, observing that he was pleased to hear that it was not such a serious matter in Northumberland as in Kent and elsewhere. He had been informed both here and at other places around that there were no known existing cases, a thing which we ought to be sincerely thankful for.

He further urged every one present to become a member of the N. and D. Association to strengthen it in its work, and that, as the Association had only begun its work in the district quite recently, he was authorised to say that Mr. Jas. Waddell was the local secretary, and would be glad to receive the names of all who might wish to become members.

At the close of the lecture Mr. Wells invited questions from any one desirous of obtaining information on the double-queen system.

Owing to this district being suitable for gathering surplus from both clover and heather honey, the "Wells" hive and the method of working were severely criticised by some among the audience. Its size and weight were considered objectionable and unsuitable for removal to the heather by cart over rough, hilly roads to the various stands amongst the hills.

One bee-keeper said, "As this district seems more adapted for sections (especially when working for heather honey), he would ask if, instead of fitting the drawer at bottom with shallow-frames, could the same be fitted with sections?" In reply, Mr. Wells said, "I generally notice that my shallow-frames, when filled with comb drawn out from foundation and ready for removal from drawer, are more or less discoloured, which discolouration would prove very objectionable to working for sections."

Various other questions were answered by Mr. Wells to the best of his knowledge, but he added a few words to say that, as he lived in a district which only produced flower-honey, he regretted his inability to enter into or to express any decided opinion regarding the best way of working for the heather honey.

The meeting closed with the usual votes of thanks to chairman and lecturer.—"CHEVIOT," *Wooler, December* 10.

EARWIGS.

[3501.] In reply to the letter of Mr. R. Hamlyn-Harris on the above subject (3489, p. 486) there is one point which I should like to call in question. This is the use of the "horny forceps," situate at the extremity of the body. I have always regarded these "horny forceps" as weapons of defence—having had many a nip from them; and, moreover, I have abundant proof that the earwig can fold up its wings without their use. For instance, when preparing the insects, the photograph of which you have reproduced, I at first tried to extend the wings of live earwigs, holding them for the time in a clamp which effectually prevented the use of the forceps. Nevertheless, I signally failed, for each time I got the wings unfolded the insect gave a wriggle! And lo! the wings disappeared. I therefore found it necessary to operate on recently-killed insects before the desired result was obtained.—(DR.) PERCY SHARP, *Brant Broughton, Newark, December* 9.

MORE "ROSEMARY"!

[3502.] According to your correspondent ("T.," 3449, p. 45) it would appear that Mr. Edwin Young, the respected secretary of the B.B.K.A., is anxious to prove that there is no foundation for the statement that the presence of rosemary in his garden is proof of playing second fiddle at home. I should like to state my own case. I cannot absolutely affirm that rosemary is not to be found in my garden, inasmuch as all the circumstances within doors point to its existence somewhere on the premises. I am not allowed to smoke myself or invite a friend indoors who has a cigarette in his mouth. Drinking alcohol in any form is strongly denounced, and my friends are urged at the dinner table to take up with total abstinence. I am invariably told that I have not properly wiped my feet on the door mat, and have to go through a second process before being allowed to enter the sitting room. I am not allowed to sit up late, nor poke the fire when I please, and among a host of other disabilities under which I labour, the wash-house copper is refused me for the purpose of melting my old combs. Perhaps Mr. Young can tell us whether his own case is entirely dissimilar?—AN OPPRESSED BEE-KEEPER.

A FROST IN DECEMBER

TWO HUNDRED AND TWENTY YEARS AGO.

[3503.] The following is an extract from *Notes and Queries* for December 23, 1882 (6th S. vi. 513):—

"*Frost in December*, 1676.—'In our late intense frost, December last. . . in Yorkshire, in some places, it froze the moisture in people's nostrils into icicles, that with their fingers (as an eye-witness told me) they pulled out pieces of ice.' (*Philosophical Dialogues*, by W. Simpson, M.D., of Wakefield, 1677, p. 219.")—FRED. COVENTRY, *Duddington, Stamford, December* 11, 1898.

GORSE BLOSSOM.

[3504.] I observed a furze bush in almost full flower to-day, and on making the remark that this was somewhat unusual, I was asked whether I did not remember the old saw, "Kissing 's out of season when gorse is not in bloom"? Can any of our bee-keepers explain this saying? I do not remember hearing it before. Perhaps, also, some who have experience can say what sort of honey bees gather from gorse?—E. D. T., *Eynsford, Dec.* 10.

WAX EXTRACTING.

After your very kindly, though somewhat highly-coloured, description in "Homes of the Honey Bee" of me and my "Kail Yard," and the interest taken in my two previous attempts to further the bee-keeping industry, I concluded I could not do otherwise than submit to your superior judgment my latest effort in the same direction. Should you consider it might be of some use to those who, like myself, take a delight in doing all the work about the "apiary" themselves, with the maximum of pleasure and peace, you are, as a matter of course, at liberty to make what use you please of this communication, and you may rest assured there will be neither "protection" nor "patent" applied for.

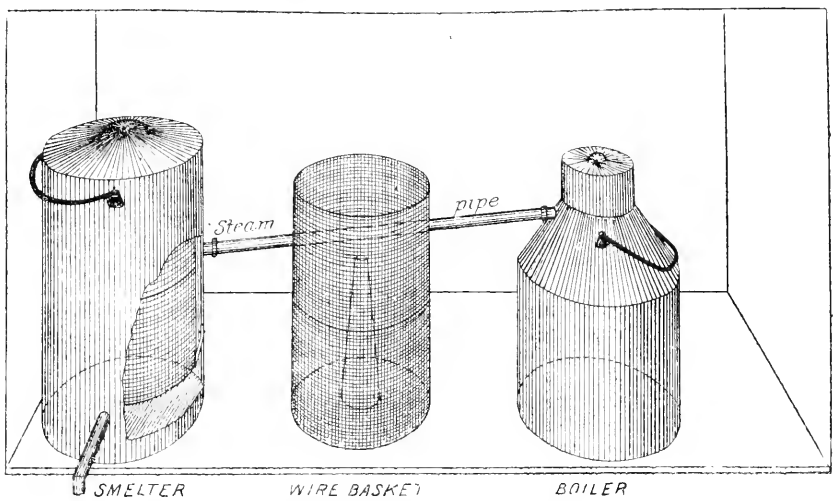
I have carefully looked up the B J. and *Record* as far back as 1890, but have found nothing more in advance of wax smelting than the old-fashioned system of boiling it like a "Scotch haggis," or the somewhat later "Gerster" set on a boiler or pot, but in all cases directly over the fire. True there is the plan of melting in an oven, but there is always the same risk and the attendant mess.

You will, I am sure, perceive at a glance that any risk in that direction from the highly inflammable nature of the wax is "put out of court" by the system which I have adopted of conveying the steam from the boiler to the smelter placed at a distance convenient to the operator but removed as far as possible from its source. I assume, then, that to be able to convert one of the two valuable products of the "bee industry" into a valuable asset, with the least possible inconvenience and without danger to "home or 'habitant" is a step in the direction of progress, and anything that conduces to the attainment of "pleasure and profit" in the pursuit, ought to be in the power of every willing worker to accomplish without let or hinderance.

With the sketches before you, little will be required from me by way of explanation, beyond the few measurements given below.

I have adopted the "Gerster" extractor as far as possible for this reason, that those who may be in possession of one or any of the so-called improved, can adapt them to my system, at a minimum of expense, which you will admit is in itself a desideratum.

The apparatus can be made any size, and to suit any circumstance. The boiler can either be set on the fire (in my own case a close range) or hung over an open one, and the smelter, as already stated, placed in any convenient position, but away from the reach of fire. With this provision, the steam pipe must have a direct incline up or down to the smelter to prevent the lodgment of the condensed steam.



THE "PEEBLES" WAX-EXTRACTOR.

The boiler and outer case of smelter are made of Sieman's tinned steel plate, twenty-four gauge; the steam-pipe of $\frac{3}{8}$-in. block tin tube, connected by two brass couplings. The boiler and outer case are put together in such a way that no solder is exposed inside (I need not explain how). The basket, which is shown in sketch entire, and partly exposed in position, consists of tinned steel wire cloth, ten meshes to the inch, bound on a light tinned wire frame, and measures $11\frac{1}{2}$ in. high and 8 in. wide. The small perforated cone shown in comb-basket is portable. The smelter measures 15 in. deep and 9 in. wide, and is fitted with a spout $\frac{3}{8}$ in. diameter, inserted 2 in. clear of bottom; there are also three tinned brackets, rivetted inside, on which the basket rests, 3 in. clear of the bottom. The boiler holds about 2 gallons, but must not be filled higher than the base of the dome. The measurements are 14 in. high over all, the body 9 in. by 9 in., and the opening at top 4 in.

Before "steam's up" the space in bottom of smelter must be filled with hot water until it overflows by the spout; the basket and contents are then inserted, and there you are.

To prevent the escape of steam, I spread a cotton cloth over the top of each vessel, and press it down with covers, which makes them as tight as may be.

I leave out the process of refining the wax; this is so well known already as to be superfluous.—ROBERT PEEBLES, *Edinburgh, November* 11, 1898.

CORRESPONDENCE.

(*Continued from page* 494.)

"MY DOINGS."

HOW I BECAME A BEE-KEEPER.

[3505.] As a reader of your valuable journal since 1888, at which time I was induced by a lady to try bee-keeping on the skep plan, I have always been considerably interested in the articles by your many and various contributors, not forgetting your own able leaders and ever welcome "Hints," nor should I omit to name the admirable papers by "Lordswood," which are again appearing, to intensify our love of all that is beautiful in Nature. Well, sirs, after all this time since I began accept a brief account of my doings if worthy of a space in your pages. I began, then, at the above date, and at once caught the bee-fever. Well do I remember the excitement of hiving my first swarm, the bees thereof flying about half a mile away, and clustering in an awkward place, which sadly increased the difficulty of hiving the swarm in my then inexperienced hands. I was also a bit nervous about being stung in those early days. From the straw skep I got to the frame hive, several of which I bought second-hand from different makers, and oh! the endless trouble and worry these mixed-up kind of hives and frames cost me! Some made for broad-shouldered frames, with ⅞ in. top bars; others for the heavy and thick cast metal ends; again, some for "W.B.C." ends. I always use the latter now, and now make my own hives *double walled*. I have now ten frame hives and two on the "Wells" principle, both the latter being home-made. I have also the traditional straw skep. I established my first "Wells" or double-queened hive last spring, and it was so satisfactory that I started another double-queened colony this autumn with the queens of 1898, and trust to be as successful with it as with the other. The latter has one queen of 1897 and one 1898 (introduced this autumn). I was very pleased to notice, when examined on November 14, both sides were taking in pollen.

But I was most interested in securing a quantity of drones flying so late in the year as mid-November. I had been seriously concerned on noticing the same unusual event about a fortnight earlier on, fearing that the stock might be queenless; but on examination at the time I found on one side four frames quite half full of eggs and brood in all stages. The other compartment, headed by the queen of 1898, had brood on two frames only.

I also found, to my annoyance, a frame of foundation (given September 18) broken down and built in all shapes. The cause of my having frames of foundation in my hives so late in the year is worth relating, I think. It happened as follows:—I had started a lady in bee-keeping some two years since, and the hive in question contained a runaway swarm recovered from the gable end of her residence, where the bees had taken up their quarters in the summer. The lady referred to wished me to get the bees out for her, and not having a frame-hive ready, I induced her to order one from a well-known maker I recommended. The hive came to hand, and appeared well made and satisfactory, but the frames were wired with only two small wires placed vertically, and pressed into foundation (I hope that maker will see and note these remarks). Well, sirs, the result is as recorded above. Regarding recovery of the runaway swarm from house roof, I did not get to these till September 15. I found the bees located under the slates in the hollow wall of the gable end of house in a space about 5 in. wide. The combs were built across this narrow space, and were extended down about 2 ft. 6 in. I got the combs out bit by bit, but for the bees, you can imagine I had some difficulty with them owing to there being as many robber bees as "citizens" who rightfully lived there. Eventually, however, I got them hived, and brought them to my own garden, so as to get them in order for winter for the lady whose property they were. The queen commenced laying at once, and I gave them empty combs with two frames full of stores from my own hives, exchanging for my full frames of comb taken away frames fitted with foundation, and these were the frames wherein the annoying breakdown occurred.

With every good wish for you and the "craft."—JESSE FRY, *Ilkley, Yorks, Nov.* 30.

"THE HAT."

A YOUNG BEGINNER'S MITE.

[3506.] I am sending my "mite," in the interest of bee-keeping, for the "Hat." I am only a young novice, and can't afford much, but encouraged by Mr. Till's remarks on page 482 I have ventured to send you a "postal" for a shilling.—A BEGINNER, *Staffs., December* 10.

RETURNING EXHIBITS FROM SHOWS.

[3507.] I notice in Mr. Woodley's "Notes by the Way" (3483, p. 482) he again refers to the return of exhibits from shows at the same rate as sent. The way my brother and myself manage is, as I said before, by signing a "risk

note" with the railway company every year; in this way we get our exhibits returned at the same cost, *i.e.*, half rates as when sent.

I do not think that labelling the returns as "agricultural produce" would do it. Anyway, I know as a fact it will not on the "Great Northern" line, as goods so labelled to go cheap rates have to be prepaid, and, of course this is impossible, so far as the Secretary of Show doing it.—W. HERROD, Expert and Apiarist, B.B.K.A., *December* 10.

SEASONABLE QUESTIONS.

ANSWERED BY G. M. DOOLITTLE.

STRAIGHT COMBS WITHOUT FOUNDATION.

Question.—Will you please tell us in *Gleanings* how straight worker combs can be secured without the use of comb foundation? I wish to make my frames this winter, and put them in shape for next summer's use, and I do not wish to use foundation in doing so. Knowing that you kept bees before the advent of foundation I thought you might give those who do not wish to purchase foundation for their brood-frames some light on this matter.

Answer.—To have all of our combs built true in the frames, so that each comb is as true as a board, is certainly worth working for, to those who handle their frames. The object of frame-hives is to allow of a better control over the inside of the hive than could be done with box-hives; and only as these frames are movable, in the fullest sense of the word, is this object secured. We often see combs so bulged or crooked in the frames that they will not allow of being changed to different parts of the hive, or from one hive to another, in which case the hive containing them can scarcely be called a movable-frame hive.

As a starting-point toward straight combs I would use a strip of foundation, ½ in. wide, as a guide for the bees to follow the centre to the top-bar to the frames, even did such foundation cost me 2 dols. a pound; for where no such guide is used it is impossible to secure the combs built true in the frames. If any person is so set against foundation that he will not use it in any case, a wax guide can be put on the under side of the top-bar to the frame, which is secured by making a straight-edge of hard wood, the thickness of which is equal to half the width of the top-bar to the frame. by 1 in. wide, and ¼ in. shorter than the inside of the top-bar is long. This straight-edge is nailed to a wide board, and the board is so fixed that it inclines enough for the melted wax (which is to be used to make the guide) to run along the top-bar freely, With a wet sponge moisten the straight-edge; lay the frame on the wide board with the under side of the top-bar pressed against the straight-edge, when a little wax is turned from a spoon into the upper edge of the V-shaped trough (which is made by the top-bar of the frame and the straight-edge), and allowed to run down the whole length of it. Now lift the frame and you have a wax-guide for the bees to start their comb on. By keeping the straight-edge wet, the wax will not stick to it; and, by using a lamp under the dish of wax, it can be so regulated that the wax is kept at the right temperature all the while. In this way guides can be put on very rapidly, but they are not nearly as good as the strips of foundation, as the latter has cells started on it, while the other is only a plain strip of wax. While I have found a guide of some kind an actual necessity (the above two being the best), I have also found that no guide can always be depended upon, for the bees are sometimes very obstinate, and will leave any guide, or gnaw the wax off, so as to build crooked combs, if they do not go directly across the frames. Consequently it pays the apiarist to look at each colony hived on empty frames, while they are building comb, as often as once in three days. If any combs are going wrong, they can be bent back in line very easily, and after the hive is once filled they are good for many years, as I have never yet seen a comb that I would discard on account of age, although I have now kept bees for nearly thirty years.

To best illustrate how to manage I will give my way of working with a swarm of bees hived in any hive having frames with only starters in them. As all of my queens have their wings clipped, the swarm is hived by letting them return, previously moving the parent colony to a new location, and setting the hive containing the full number of frames in its place. In two days I open the hive, and usually find that the bees have made a start on five frames. These five frames are placed together at one side of the hive, and a dummy or division-board is placed next to them. This throws the full force of bees on these frames, and they will soon fill them with straight worker comb, as a rule, especially if sections are placed over them, as they always should be, so that, if much honey is coming in, it may be stored in the sections rather than be an incentive for the bees to build drone comb in which to store it. This also gets the bees to work in the sections quicker than any other way I know of. If we get these five combs built straight there will be no trouble in having the rest so, as they can build them no other way if placed between two of those already built. If every comb in a hive is straight and all worker, other conditions being equal, such a colony will be a profitable one; and if each colony is in like condition, all will be profitable. No bee-keeper, even if he has not more than three or four colonies, should consider them in proper working condition until each comb is a straight worker comb. There is no need of having hives half full of drone comb, and so crooked that they cannot be handled. If we do things at the right time and in a proper manner, our bees

will more than pay us for all of the time spent on them.

Suppose that, instead of working as above, we hive our swarms without paying any further attention to them. Swarms issuing when honey is very abundant will build comb very rapidly, filling their hive in eight or ten days, thereby building comb in advance of the queen, in which case their comb will be apt to be crooked, and at least one-third drone or store comb, which is good for nothing for rearing worker bees the next season, but an actual damage, as the drones reared in them will consume a great part of what honey the workers gather. Such colonies will always be unprofitable ones, either for rearing bees or storing honey, just so long as left in that condition; and, if unprofitable, the bees will be neglected more and more, and the keeping of bees be declared by the owner as a "delusion and a snare," while had their keeper attended to them while they were building combs, and then given them the attention needed afterward, success would have crowned the effort, and bee-keeping would have been declared one of the nicest and most profitable pursuits in the world. Any business is profitable only as we put our thought and energy into it, bee-keeping being no exception to this rule.—*Gleanings* (American).

Queries and Replies.

[2133.] *Starting Bee-Keeping.—Choosing Hives.—Hive Nomenclature.*—1. I am just at present negotiating for a house in the country, where I intend commencing bee-keeping in April or May next, and would like to know whether you recommend the "W. B. C." hive, with one queen, or the "Wells" hive, with two queens? I read in a gardening paper of Mr. Wells' success in 1892. 2. When wandering in the country I have seen a good many "W. B. C." hives, but have failed to notice any of the "Wells" type. After a fair trial of the "Wells" have bee-keepers seen the error of their ways? My knowledge of bees is theoretical. 3. What is the meaning of "W. B. C."?—JEM, *December* 12.

REPLY.—Our correspondent is evidently new to Bee Journalism, and in consequence we shall have to tell him what is so well known to our readers, that we cannot mention it at all without saying what perforce must, more or less, savour of egotism. First, then, the "Wells" hive or "system" is not at all suited for a beginner in bee-keeping. 2. The "W. B. C." hive is, we think, generally regarded with as much favour as any hive at present on the market. The writer, however, is perhaps a bit prejudiced, as most parents are in favour of their own "bantling." 3. This query, as put, is a puzzler! W. B. C. may mean many things, or they may mean letters of the alphabet only. We know that when a boy a "chum" of our own used to say it meant "Werry Bad Chap," but then he was a joker. Seriously, then, and in case any one else cares to know and does not, "W. B. C." are the initials of the writer of these lines, who many years ago wrote an article in answer to the query, "What hive do *you use*, Mr. Editor?" and as was usual in those days signed his initials "W. B. C." Ever since the hive has been known to bee-keepers as the "W. B. C." That is the only answer we can give us to the meaning of the letters quoted by "Jem," whom we must ask—now that he is a reader of the B.B.J.—to send his name and address when writing queries for print.

[2134.] *Hive Measurements.*—In reading the eighth edition of *Modern Bee-Keeping* (page 24, tenth line from top) it says: "the outer walls (o.w.) are $8\frac{3}{4}$ in. wide." Is this $8\frac{3}{4}$ in. the correct measurement hive?—H. EVANS, *Newport* (*Mon.*), *December* 7, 1898.

REPLY.—The dimensions given are perfectly correct; the metal runners (M.R.) which raise the frames $\frac{1}{4}$ in. to allow a bee space under the "lugs" or frame-ends—making up the full 9 in.

[2135.] *Foul Brood, and Dealing With It.*—1. Where may I see an account of the etiology and pathology of foul brood, and microscopical examination of same described? 2. Is it of much import whether a "bee-man" owning ten stocks, who has to deal with persistent foul brood of a mild type, uses large skeps or frame hives? It is costly burning frames now and again, and airing frame hives a year or two.—B. W., *Kirkby Stephen*, *October* 22.

REPLY.—1. The Leaflet (No. 32) on Foul Brood (or bee pest), issued by the Board of Agriculture (sent free on application) will, we think, answer your purpose. 2. In dealing with foul brood in any form, it is undoubtedly of the greatest importance to have hives with movable frames.

Echoes from the Hives.

Clavering, Essex, December 8.—I noticed to-day (December 8) the bees of several of my colonies bringing in pollen freely, no doubt from ivy. For several years past I have noted that my bees never carried in pollen after November 5. Last year was the first time in over twenty years that I have ever seen them do it in December. This autumn is very similar to last. The season of '98 was not a good one for this district, spring and early summer being wet, though the later hot weather made up for it a bit. Bees so far appear doing well, though probably consuming a lot of their stores.—E. WOODHAM.

WEATHER REPORTS.

WESTBOURNE, SUSSEX,
NOVEMBER, 1898.

Rainfall, 4·7 in.
Heaviest fall, 1·34 in., on 23rd.
Rain fell on 17 days.
Above average, 1·31 in.
Maximum Temperature, 56°, on 3rd.
Minimum Temperature, 24°, on 30th.
Minimum on Grass, 18°, on 23rd.
Frosty Nights, 5.
Sunshine, 83·6 hrs.
Brightest day, 1st, 7·3 hours.
Sunless Days, 11.
Above average, 14·6 hours.
Mean Maximum, 49°.
Mean Minimum 37 9°.
Mean Temperature, 43·4°.
Above average, 1·1°.
Maximum Barometer, 30·41°, on 15th.
Minimum Barometer, 28·61°, on 25th.

L. B. BIRKETT.

METEOROLOGICAL

OBSERVATIONS TAKEN AT DUDDINGTON, STAMFORD, NORTHANTS, FOR THE WEEK ENDING DEC. 10, 1898.

1898.	Bar. in.	Tem. 9 am deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in.
Dec. 4....	29·77	51·1	55	45	10	50·2	·02
,, 5....	29·86	55·1	57	51	6	54·1	·02
,, 6....	29·89	54·9	56	54	2	55·0	·51
,, 7....	29·66	43·9	46	44	2	45·0	·05
,, 8....	29·99	37·0	50	36	14	43·3	·25
,, 9....	29·56	46·0	51	35	16	43·3	·01
,, 10....	29·95	50·5	55	39	16	47·3	·01
Means	29·81	48·4	52·9	43·4	9·4	48·3	·87

* Total, ·87.

Mean vapour tension, 0·290 in.; mean relative humidity, 84 per cent.; mean temp. of the dew point, 43°·6. The rainfall, viz., ·87 in., = 19,682·01 gallons, or 87·87 tons to the acre, or 4·35 lb. to the square foot. For the week ending December 3, the mean temp., viz., 42°·1 (not 42°·2 as sent in error), was +1°·9, and the rainfall viz., ·07 in. −·58 in. The rainfall, January 2 to December 3, viz., 17·07 in., is −7·47 in. Welland swollen, and low-lying meadows slightly flooded.

FRED COVENTRY.

RAINFALL.

Rainfall measured at Duddington, Stamford, Northants, at 9·0 a.m. daily, January 2 to October 29, 1898 :—

1898.	Rainfall, in.	Average, in.	Difference from Average, in.
Jan. 2-29	·81	.... 1·79	.... − ·98
Jan. 30-Feb. 26....	·57	.... 1·66	.... −1·09
Feb. 27-Mar. 26 ..	1·27	.... 1·27	.... average
Mar. 27-April 30 ..	2·10	.... 1·98	.... + ·12
May 1-28	2·28	.... 1·92	.... + ·36
May 29 June 25 ..	1·04	.... 1·89	.... − ·85
June 26-July 30 ..	1·20	.... 2·83	.... −1·63
July 31-Aug. 27 ..	2·83	.... 2·33	.... + ·50
Aug. 28-Oct. 1	·50	.... 3·00	.... −2·50
Oct. 2-29	2·61	.... 2·69	.... − ·08
Total	15·21	.... 21·36	.... −6·15

JANUARY, JUNE, AND DECEMBER.

The following are readings of verified thermometers mounted in a Stevenson screen, and read at 9 a.m. daily at Duddington, near Stamford, Northants, January 19-22, June 12-15, and December 3 6, 1898 :—

JANUARY 19-22, 1898.

1898.	Temp. 9 a.m. Deg.	Max. Deg.	Min. Deg.	Range. Deg.	Mean. Deg.
Jan. 19....	50·0	54·0	43·0	11·0	48·7
,, 20....	51·5	55·0	50·0	5·0	52·6
,, 21....	50·0	54·0	48·0	6·0	51·1
,, 22....	47·1	52·0	37·0	7·0	46·8
Means	49·7	53·8	46·5	7·3	59·3

JUNE 12-15, 1898.

1898.	Temp. 9 a.m. Deg.	Max. Deg.	Min. Deg.	Range. Deg.	Mean. Deg.
Jan. 12....	49·6	57·0	48·0	9·0	52·2
,, 13....	49·1	53·0	47·0	6·0	49·8
,, 14 ...	47·8	55·0	47·0	8·0	50·7
,, 15....	49·9	58·0	37·0	21·0	46·8
Means	49·1	55·8	44·8	11·0	49·9

DECEMBER 3-6, 1898.

1898.	Temp. 9 a m. Deg.	Max. Deg.	Min. Deg.	Range. Deg.	Mean. Deg.
Dec. 3	45·0	55·0	43·0	12·0	49·2
,, 4	54·1	55·0	45·0	10·0	50·2
,, 5	55·1	57·0	51·0	6·0	54 1
,, 6	54·9	56·0	54·0	2·0	55·0
Means	51·5	55·8	48·3	7·5	52·2

FRED COVENTRY.

PREPARING BEES FOR WINTER.

No. 4.

Some people are of the opinion that if we have a cold, steady winter, in which the bees remain confined to their hives for several months, there is less danger of winter losses, because less of the bees wander away and get lost. There would be a point in this, if it were not for the danger of the overloading of their bowels with fecal matter which they cannot discharge in the hive, as I mentioned in the previous article, without greatly endangering the life, or health, of the colony. In a very regular atmosphere, where the temperature is such that they are kept quiet naturally, and neither breed nor have the desire of moving about, as in a properly-regulated cellar, their is little danger of their bowels becoming distended; for they consume a minimum, and if the food be of the proper quality they may remain from three to six months without much danger. But we are now considering an out-door wintering, and, in a climate like that of Illinois, it is urgent that the bees be able to take a cleansing flight several times during the bad season.

For this reason we have to keep them in the best possible location as regards warmth, and the hives would best be facing south if possible. We have had much to do with apiaries exposed to all four of the cardinal points, and found great objections to either north, north-east, or north-west exposures. We once placed an apiary on the farm of a friend who had a few hives of his own, most of

which faced north, and who had been most unlucky in wintering. He had it in his head that the bees should not be allowed to fly during the winter, and that was the reason of his placing the bees on the north side of his tool-shed. It took but one more winter to convince him of his error. We had a hundred hives located on his farm, and although the winter was very unpleasant our loss was small, while over half of his bees died.

The explanation is very easy. When a warm day came, the hives which were exposed to the rays of the sun began to warm up shortly after sunrise, and in the course of a couple of hours the bees were ready for a flight, which they could enjoy while the sun was high. But his hives not being placed so as to have the benefit of the sun's rays, could not get sufficiently warm to stir up the bees until the greater part of the day had been spent, and those bees which did take a flight were in many cases unable to return, owing to the coolness of the afternoon. Those bees, which enjoyed a good flight, were ready for another siege of cold and storm, and could cheerfully pass through some very rough weather; while the colonies which had no flight soon became restless, and lost their bees steadily till they were all gone.

Even when the snow is on the ground, and it looks as if it would be a pity for so many bees to fly and drop on this white sheet, we find that it is the colonies which take the most lively flight that winter best, and we have paid particular attention to this fact.

I would not, however, wish to be understood as desirous of having the bees to fly in spite of adverse conditions; and when snow is on the ground and the colonies comfortably buried in a deep snow pile, they are probably safer than when exposed to the weather; but if the snow is thawing, and the bees likely to be restless from the warmth of the air, I would allow them a flight every time.

Be the weather ever so cold for two, three, four weeks at a time, if your bees can have a good flight once a month, and if their honey is of fair quality, you need fear nothing of the results.

A few winter flights also have the advantage of inducing the bees to breed early, and although this is sometimes dangerous, yet in most cases the early breeding is a favourable sign, for the possible spring losses are partly made up by the young hatching bees.

Of all the exposures, I would prefer the south or south-west. Next would be south-east, and then east. But circumstances alter these rules, and the natural shape of the country must be considered. Where a good fence breaks the force of the winds, something is to be gained. The sole objection we have to the east exposure comes from the steady, drizzling, cold rains of early spring, which seem to do more damage than the dry and brisk west winds.—C. P. Dadant, in *American Bee Journal*.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

W. King (Rothiemay).—*The "Wells" Hive.*—Illustrations of several varieties of hives for working colonies of bees on the double-queen or "Wells" system have appeared in our pages, but we are not aware that any special one has the full approval of Mr. Wells as exactly adapted for carrying out his system. Nor do we feel quite justified in recommending the "Wells" hive of any particular maker to the detriment of others no doubt equally good.

Amateur (Southport).—*Bee Associations and Assisting Members.*—1. The Association to which you refer is certainly not dormant; in fact, it has recently appointed a new hon. secretary, who, it is hoped, will be able to devote more time to the duties of the office than the late secretary was able to do. 2. The balance-sheet of the Association will, no doubt, be presented to the annual meeting, when held early next year, and a copy sent out in the usual way. 3. You are quite right in considering that an apprenticeship is necessary to successful bee-keeping, and to afford the necessary teaching lectures are given in many counties under the auspices of the Technical Instruction Committee of the several County Councils wherein instruction in bee-keeping is afforded.

M. Fowler (Peterborough).—*Identifying Queen Wasps.*—1. The queen or female wasp is known by its large size. 2. None but queens live over the winter, but it is quite common for a wasp's nest to have in it several hundred queens in the late autumn season.

T. L. Smith (St. Asaph).—*Christmas Cards for Bee-keepers.*—The demand for these would, we fear, be too limited to warrant our issuing special cards suitable for bee-keepers. We should, however, be very pleased to do so if the need arose.

Blackbrook (Burton-on-Trent).—*Honey Sample.*—But for its lack of any decided or characteristic flavour, we should have judged the honey to be from white clover. As it is, however, it may be chiefly from raspberry, which produces honey of the light colour and mild flavour of sample.

Editorial, Notices, &c.

SEASONABLE.

So far as could be judged by the weather alone, it is not easy to realise that we are on the threshold of Christmas Day; but who that has eyes to see can fail to be sensibly and very perceptibly reminded at every turn how near at hand the great Christian festival is? The tremendous amount of "heralding"—pictorial and otherwise—given to numerous announcements regarding Christmas numbers of almost every popular weekly periodical or monthly magazine of any standing makes it certain that he must be indeed blind who forgets that it is Christmas.

Nor can we shut our own eyes to the fact that the present issue of the B.B.J. must take a (very) modest place among its big contemporaries, creep in unseen, as it were, and make its weekly bow to readers properly occupied, no doubt, with more "seasonable goods" than bee-reading. Yes, we quite expect that in a large majority of cases its pages will remain uncut till a later day. But somehow there is such a *want* on the part of the genuine bee-man to have a look at his hives (the *outside*, of course) that we are not without a hope that some readers will find time to take a glance at the inside of their BEE JOURNAL. Not that *we* have any "Christmas Number"—the time has not quite come for that yet—but we have at least space for a word of kindly Christmas greeting and hearty good wishes for all of the yearly increasing number of friends who are bee-keepers, and this word is here tendered in all sincerity by

THE EDITORS.

THE "ROYAL" PRIZE FUND.

"MR. TILL'S HAT."

A correspondent, writing a couple of days ago, said: "Allow me to drop half-a-crown into Mr. Till's hat"—which is a very good thing to do—and the question was raised some time since whether Mr. Till's hat possessed a brim strong enough to bear the weight of wealth dropping into it. We, however, have no fear on the latter point, and we also admit that "the hat goes round" with fairly satisfactory results; but when Mr. W. Woodley in his "Notes by the Way," in opposite column, talks of bringing in another "Royal" show, *i.e.*, "The Royal Counties," as a participant of the "Hat" fund, he entirely overlooks the total sum needed for *The* "Royal" (there is but one "Royal" show as bee-keepers regard it), and the sum so far dropped into the hat. We therefore make bold to add one more plea for more shillings in this, the open-hearted season for a Christmas shilling, to swell the contents of "Mr. Till's hat," and we will next week count the contents for publication.

Correspondence.

NOTES BY THE WAY.

[3508.] I feel sure Mr. Till must be gratified at the response to his appeal for means to increase the prizes at "Royal" shows. I have added an "s" to the word "show," making it plural, so that the "fund" may not be all spent on one show. The early date at which the "Royal" Agricultural Society's show, and also that of the "Royal" Counties, are held, makes it impossible to fill the classes for honey of the current year, except in very early seasons; and if we return to the old value in prizes previous to last year, this would, I think, give general satisfaction. In the case of an extra large class of any one kind of honey, I think the judges should be empowered to award extra prizes. In this way the money reserved for these extra prizes to large classes (or anything of especial merit connected with the craft) could be drawn from the "Prize Fund," and the fact that such a "Fund" was available would naturally influence the judges to greater liberality in such of their awards as come under the head of extra prizes.

Candy Making.—Referring to the letter of "F. E. I. S." (2485, p. 484), and doctors differing on candy making, I would say we still use the crystallised raw sugar (pure cane) in my apiary. ["Crystallised *raw* sugar" is a misnomer. If crystallised, the sugar is no longer "raw."—EDS.] Our saucepan holds 18 lb. of sugar, 3 pints of water, and I add 1½ teaspoonfuls of cream of tartar and *no* salt. In fact, we have discontinued the use of both salt and vinegar in syrup making for spring feeding, and the salt in the soft candy for winter feeding. The cream of tartar is required to break the grain of the sugar; possibly in using a smaller quantity of cream of tartar the candy would require more stirring. I intend next time we are making candy to try Mr. McNally's two minutes' boiling, though I fear we cannot use his formula as regards the *aqua pura*. The sugar he uses may have a material effect on the candy, but I know if we use less than 6 lb. to the imperial pint of water the result is not satisfactory. Thanks are due to Mr. or Mrs. or Miss

"F. E. I. S." for tabulating the proportions of the various (very various) proportions of ingredients for candy making, but the advertising columns of the B.B.J. indicate that a change of some kind is setting in amongst the masters of the "candy craft." We are now told that sugar only is the safe ingredient to use because of the risk that *honey*, in the "honeyed" candies so strongly advocated in the past may convey the germs of disease if used in its manufacture. The addition of honey in bee-candy was probably introduced by some wideawake maker to steal a march on his competitors; but, for myself, I have never had any difficulty in getting my bees to take candy; in fact, it is invariably consumed before the sealed stores in the combs. This fact apparently therefore proves that candy is preferred by the bees to honey itself. Comparing, too, the prices of sugar and of honey (even foreign honey), I do not think that a large proportion of the latter has ever been used in making candy, but just enough to give it a sweeter name. Of course, if honey from a tainted source was used, it would be a serious matter, because of the repeated injunctions given in "Useful Hints" as well as by myself and others in your pages, "to make sure that the bees do not starve by giving a cake of candy." This advice has probably been followed in hundreds of cases.

Returning Exhibits from Shows.—Will Mr. Herrod, who writes in B.J. of December 15 (3507, p. 496), please tell us if, in signing a "Risk Note" with, say, the G.W.R., the exhibits will be returned by any other company at the half rate? Perhaps the Hon. Sec. of the Kent and Sussex B.K.A., under whose auspices the Dover Show was held, will kindly, if he can, throw some light on the subject? I jumped to the conclusion that it was the magic words, "Agricultural Produce," that had the effect of moderating the charges. A few years ago I invariably sold my exhibits, or entered them for sale at such a fair price as always ensured their being sold if they were awarded a prize or received a mention; but the changed conditions of "showing" nowadays makes one chary of selling an exhibit which has taken premier honours. I say this because it falls within the possibilities of the future that a successful exhibitor may have to compete with *himself* somewhere else!

Unfair Exhibiting.—The risk of unfair exhibiting referred to by your correspondent "Fairplay" on p. 487 may be nipped in the bud another year by clearly stating that "all honey must be gathered in the natural way by the bees during the current year." The giving of honey to bees in order to secure a prize is in my opinion very unfair to other exhibitors. Again, I do not believe it could have been unripe honey of 1897, unless it was put into self-opening tins as soon as extracted before fermentation had started. Had the honey been ripe enough to crystallise and been kept in sealed vessels, no doubt it would keep good till the following year. I should rather incline to the idea that is was *not* "*fed back*," but carefully reliquefied, as if fed back and all the other bees in the neighbourhood were collecting dark honey, *i.e.*, honey dew, at the time, surely these same fed bees were also gathering some honey dew, and this mixed with the honey in the feeder would have spoiled the sample.

The great closing festival of the year is here again; may it prove a happy reunion of friends and relatives gathered to the "old home" once more around the cheerful hearth and blazing Yule-log.—W. WOODLEY, *Beedon, Newbury.*

LESS ROSEMARY.

[3509.] I am rather astonished that the simple statement made by me at the late Conversazione should have occasioned curiosity on the part of any of your readers, *vide* 3449 (p. 455) and 3502 (p. 494), in regard to the "domestic status" of such a werry 'umble individual as the Secretary of the B.B.K.A. In response, however, to the very direct questionings of "An Oppressed Bee-keeper," I am induced to throw aside my natural reserve and divulge the following "secrets of the hive":—Firstly.—Not being of a particularly musical nature, I never attempt fiddle-playing, either first, second, or third. Secondly.—I am an anti-tobacconist, and cannot remember any friend smoking under *my* roof—or wishing to do so. Thirdly.—*My* friends, at *my* dinner-table, never take alcohol, neither does *my* wife, nor *her* husband. Fourthly.—I usually remove *my* ("garden") boots after "rosemarying," and go through the second process of substituting others before being *allowed* to "put *my* foot down" in *my* sitting-room. Fifthly.—I seldom retire to rest at an early hour, and I have the fire poked *for me*, and, at one time, had a separate "copper," *all mine*, in which *my* old combs were melted. Sixthly.—There is a *young* queen in *my* hive, and (tell it not in Gath) "kissing 's in season when the rosemary bears no sign of blossom, and when nothing but 'honey-dew' is coming in."

Oh, yes! Messrs. "T." and "Oppressed Bee-keeper," I have *my* disabilities under which to labour. "Every heart knows its own bitterness," and I would that *my* troubles could be rightly attributed to the washhouse copper, the last cook, or to some inoffensive herb, rather than having to confess thus publicly that they mainly result from faults and failing on the part of—EDWIN H. YOUNG, *December* 15, 1898.

P.S.—A Merry (*not* Rosemary) Christmas to all.

THE BRAULA (COECA).

[3510.] Christmas festivities are no doubt engaging the attention of B.J. readers just now, and it is hoped that anything likely to instruct or (shall I say) afford interesting amusement at this season will not be entirely

out of place in your Christmas issue. To account, then, for my asking our Editor to insert the accompanying photo in current issue, I might have said anything is fair "game" at Christmas time, but under no conditions can I advert to my subject as "game," but I was so amused the other night—as well as being intensely interested—in securing what I modestly call a couple of good micro-photos of that bee-man's horror, the Braula cœca (or blind louse), that I resolved to send a print of the negative for insertion in our BEE JOURNAL if you thought well of it. My amusement, I may say, arose from comparing the much-worn-through-hard-service wood-cut of our friend the Braula with a photo from life; and my

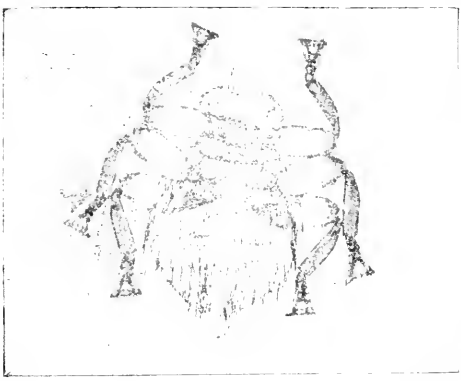


Fig. 1.—Braula.

interest was aroused in noting the wonderful structure of the tiny creature with the somewhat indelicate sub-title. In fact, the bee parasite has hitherto been presented to your readers in mufti, and it is now my proud privilege to present, I believe for the first time in bee-history, the female Braula cœca in all her native beauty. Nor do I think it unsafe to say that the photo shows the most perfect specimen of the insect that has ever appeared in print. It was, perhaps, only chance that prevented "Mr." Braula from appearing, but be that as it may, the lady got the preference as presenting more points of interest. I may also say the females of this insect far outnumber the males. It will be seen that what looks like the head is in reality the mouth organs; consisting of mandibles, tongue, palpi, and labrum. The real head is the wide part seen just above the first pair of legs. On examining the insect under the microscope it is even more apparent that there are compound eyes, one on each side of the head. That they *are* eyes I am almost certain, but I hope ere long to prove my contention, and, should I be able to do so, the second part of the name must, of course, be deleted, as cœca means blind, hence blind-louse. I am, therefore, proposing to call it in future the Braula, or bee-louse. It will be seen that the thorax presents the appearance of a comparatively narrow oval band, from which the first pair of legs arise; the other two pairs springing from the first two segments of the abdomen. At the extremity of the abdomen will be seen another apparatus. The picture shows the dorsal, or upper side of the insect's abdomen, while on the other hand the anal opening is found on the ventral, or under side. I therefore conclude that the apparatus in question is its ovipositer, and a very complex one it is too. The second illustration shows its delicate and beautifully formed foot, eminently suited for the mazy dance.

Fig. 2.—Foot of Braula.

Altogether the foot is a subject of the greatest interest and beauty. It consists of five joints having two rows of delicate "feelers" along its ridge, these "feelers" being turned backwards in the picture and reveal two lace-like filaments of marvellous construction. My first impression was that these were pulvilli, but a closer examination revealed two pads at the base of the foot which are, in my opinion, the pulvilli. There arises, in my mind, some difficulty in realising or describing the purposes served by these two filaments. That they are specialised is beyond question, and, looking at the great difference in its general construction between the Braula and other insects, I can only conjecture the uses to which some of its parts are applied. Nor am I able to classify the creature. Another point ascertained is that it carries its young on its body, but between its infantile and the almost fully-grown condition I have, so far, been unable to find any intermediate sizes. That these exist I know, but for the present they are invisible.

What are its means of existence? Is it a scavenger or does it suck the juices of the bee? The latter is, I think, the more reasonable conclusion, but even where the Braula is found in large numbers bees seem but little

inconvenienced by them, and they are usually more plentiful in strong stocks than in weak ones. They also have a decided preference for the bodies of queens, though I have seen them scattered on all bees indiscriminately, though the body of mother bee is, as a rule, the favourite haunt of the parasite. Why this is so I do not say, though I think they have no choice, and if queens flew daily, as does the worker bee, she would have just as few braulæ as the rest. I shall probably have something further to say on the subject at a future date after making a still closer acquaintance with the ways and habits of the insect. For the present, please accept this as my Christmas contribution, with best wishes to our esteemed Editors and to all my friends known or unknown in the bee world.—HENRY W. BRICE, *Dale Park, Upper Norwood.*

JUDGING AT HONEY SHOWS.

UNFAIR EXHIBITING.

[3511.] A correspondent in the B.B.J. of Dec. 1 (3476, p. 474), "Fairplay (Chester)," puts the question "Is it fair or unfair to feed back old honey to bees, and then extract and exhibit this honey in a class for honey of the current year?" I think there can be no doubt about the dishonesty of such an action. I do not think, however, that it will do any good, but rather tend to damage the cause, to drag the case into notice through a newspaper. All the names mentioned in connection with this case are those of well-known bee-keepers, members, I believe, of the Lancashire and Cheshire Bee-keepers' Association, and if there is just cause for complaint, the facts should, I think, be put before the committee through the secretary; the committee would then deal with the matter, and those concerned should accept their decision. I hoped another, and more able, penman would have replied to "Fairplay." But as I have exhibited in the same classes with the exhibitor whose honesty is questioned, I should like to know that he can clear himself of this charge.

Unfortunately, the rivalry among bee-keepers in some districts is the reverse of friendly. There are those (very few, I hope) who think that their reputation must be sustained at any cost; and when a bee-keeper is found guilty of doing things that are disreputable and discreditable in the eyes of all honest men, the committee should use all the power it possesses to crush this sort of thing. It would, however, be necessary for an outsider to spend a whole season in the district to be able to form an opinion, from the honey-yielding flowers seen in the locality, as to whether the honey extracted was all the produce of nectar gathered in the current year.

I remember when residing in another district on the outskirts of a town, my bees used to gather nectar and store a small quantity of very nice honey for a few days towards the close of the season, but the source of supply I never did and never could discover, consequently I do not think the fact of Messrs. Dodd & Evans having been unable to secure light coloured honey is proof that another bee-keeper in the same district is guilty of dishonesty because he happens to show light honey.

In reply to "Fairplay's" further question in B.B.J. of December 8 (3492, p. 487), wherein he asks, "Is it possible to keep unripe honey from one season to the next, then feed it back to the bees, &c." I beg to say unripe honey may be "ripened" by heating and will then keep from one season till the next, but the flavour and aroma of good honey cannot be imparted to unripe honey, ripened artificially, though the consistency may be improved, and any brilliancy possessed by the unripe honey retained.

I have a high opinion of exhibitions of honey and bees' wax as mediums for educating the public, and I think it is a great pity that there is anything else than good and friendly feeling between exhibitors. Let this be ended with the dying year. It is no disgrace, much less a crime, to be beaten at a show. Let one and all exhibit their produce honestly and in such a spirit as will allow each to congratulate the other on his success, though beaten himself.

While considering shows, I would, in reply to Mr. A. J. Carter (3488, p. 486), who expresses himself in a way that I think quite unnecessary by the use of the words, "And *fair play* in judging." I am fully satisfied that the prizes at shows held by the B.B.K.A. are fairly and honestly awarded.

I never care to exhibit at a show not held by the B.B.K.A., or one of its affiliated associations, unless I learn that either the "British" or the County Association have been asked to appoint the judge. A horticultural or other society offering prizes for honey may appoint a competent judge, but often they do not, and the best honey is sometimes placed at the bottom of the list of awards. It is not, I think, so much a question of white or yellow colour in capping, as quality of contents of a section of honey. A white section may contain whitethorn honey or it may contain clover honey. And a yellow section may contain sainfoin honey or honey from mustard or some other flower of the same family.—WM. LOVEDAY, *Hatfield Heath, Harlow, Essex, December* 19.

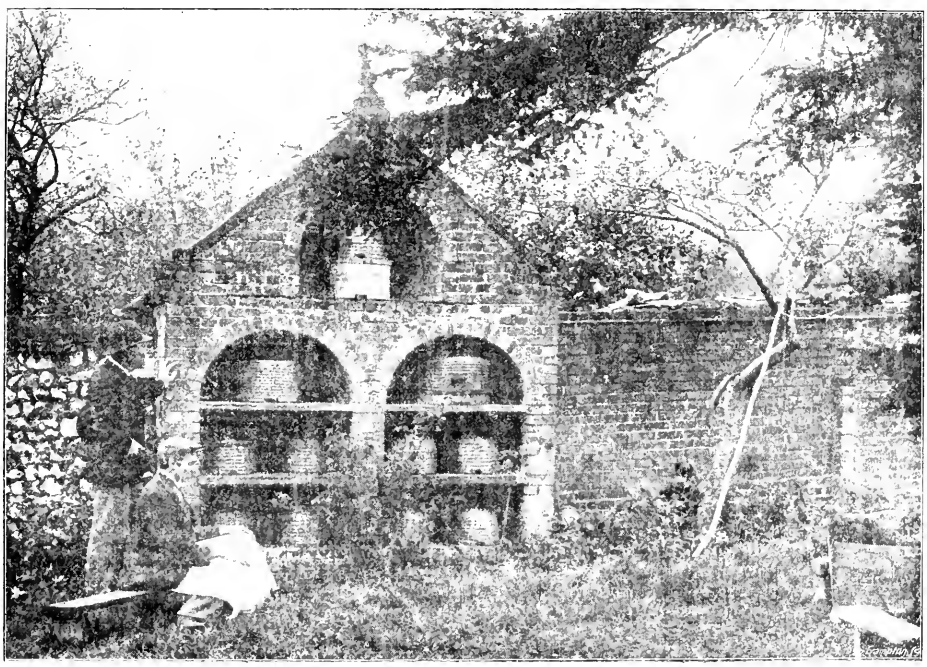
AN OLD-TIME BEE-HOUSE

AT EYNSFORD, KENT.

[3512.] I regret I cannot give you a proper history of the quaint old bee-house represented in the accompanying photograph, which was taken last year. The brickwork is that of a skilled handicraftsman of the name of Wellard, who plied his trade in Eynsford early in the present century. It is well and substantially built, and the design is tasteful as well as in excellent keeping with the adjacent old farm-house

and the spreading yew-tree in the foreground. Wellard is still a common name in Eynsford. There is a saying that Wellards and Bookers were once so numerous in our village that if, in the dark, one called out "good night, Booker," by mistake, it was only necessary to substitute the name of Wellard! Wellards, Willards, and Luards are also numerous lower down in Kent and on the Sussex border. Thence emigrated the family from which the late celebrated American temperance advocate, Miss Willard, was descended. The house and garden to which this singular old "bit" belongs is now in the occupation of a farmer and fruit grower, who gives little attention to the apiary. Very little honey indeed is now straw skep in former days seemed to possess a flavour unknown to the honey I now produce, however excellent. This may possibly be the fruit of one's imagination, or from distance lending its usual enchantment; but, more likely than not, it was the gusto of youth which imparted to honey, as to almost everything else, a charm which does not wait on our maturer years.

Formerly there used to be a good deal of bee stealing. An old villager remembers a man and his son, from Lewisham, being caught red-handed at Hextable by a Mr. Staples, and getting fourteen years for it! Another old villager tells me of several instances occurring in Eynsford many years ago. The bees were



AN OLD-TIME BEE-HOUSE AT EYNSFORD, KENT.

gathered on the substantial stone shelves of the old bee-house. I only send it you because it is eloquent of bygone days, ere modern methods had made any impression on the bee-keeping routine of our forefathers.

Great advances have been made in bee-keeping since the days when John Wellard, the Eynsford bricklayer, staged his straw skeps in the recesses of his sunny garden wall. Few of the villagers then caught "bee fever," and when they did, they never had it badly as we do nowadays. Honey fetched over a shilling a pound; and probably what we should have called "extracted" honey was a delightful mixture of honey and wax with a goodly proportion of pollen and larvæ thrown in! But a slab of virgin honey comb from a sulphured first, and generally the thieves had a horse and cart at hand. My venerable informant "doesn't know who was 'ketched' and who worn't." The villagers used, he says, to go out in gangs at night to lie in wait for the thieves and protect their bees. Certainly, in that matter, "the former days were *not* better than these."

Our parish now produces nearly a couple of tons of honey every good season, and this is largely the result of "Associative" effort, represented by the magic symbol, B.K.A.!

Before I began bee-keeping here, I used to give an Eynsford man half-a-crown for his two-pound sections. The purveyors of those days tell me now that we have spoiled their market; but I suspect increasing years have

decreased their zeal for their former enterprise. This is not altogether to be regretted, for, in a general way, old hands ought to give place to young ones. It makes one wish this were more common in our cities and our towns, especially in the case of those whom Cowper has described so aptly—

Hackneyed in business, wearied at that oar,
Which thousands, once fast chained to, quit no more!

I fear, however, that the country is losing much of its attraction for the toilers in towns, else we should see a current constantly tending back to the land—a current which ought to largely compensate for the drain of our youth townwards. Rural residence has certainly lost at least one of its charms—I mean the charm of cheap living! But I have digressed from my subject of the picturesque alcoves in the ancient garden wall. I will only add that although I am represented in the picture, I have no connection with the old-fashioned structure, unless, indeed, it be that I and this bee-house of bygone days alike suffer from too much "Anno Domini"!—E. D. TILL, *Eynsford, Kent, December* 17.

P.S.—I am told there is another alcove bee-house in a wall at Kemsing: information will oblige. I have forgotten to mention that in the massive Norman flint wall of Eynsford Castle a ledge has been hollowed out at some time or other, seemingly for staging skeps. The recess so cut away is a few feet above the level of the moat (now dry).—E. D. T.

Re ROSMARINI.

[3513.] Let bee-keepers take courage and plant rosemary in their gardens freely, for the superstition quoted at the conversazione of the B.B.K.A. in October (vide p. 434 of B.J.) seems to be a recent innovation.

Dyer, in his English *Folk Lore*, quotes the following from a wedding sermon by Dr. Hacket, dated 1607:—"Ros marinus (the rosemary) is for married men? the which, by name, nature, and continued use, man challengeth as properly belonging to himself. It overtoppeth all the flowers in the garden, boasting man's rule. It helpeth the braine, strengtheneth the memorie, and is very medicinable for the head. Another property of the rosemary is, it affects the heart. Let the ros marinus, this flower of men, ensigne of your wisdom, love and loyaltie, be carried not only in your hands, but in your heads and hearts."

The above I would add:—Rosemary worn about the body is said to add to the success of the wearer in anything he may undertake. This being so, if "An Oppressed Bee-Keeper"—who writes on page 494—would wear a piece of this plant in his button-hole, might it not help him to remember to wipe his boots and give him courage with his better half? The Americans say, "When a woman wears the breeches she has a good right to them."—THE DRONE, *Loughton, Dec.* 17.

EXPERTS' VISITS
AND THEIR VALUE.

[3514.] Your correspondent A. H. Miller (3,499, p. 493) contributes good solid reading to the BEE JOURNAL of the 15th. Cremation is undoubtedly the cheapest in the long run for dealing with "F.B." Doctors *do* differ, but why heed them? The saying is that "every man is either a physician or a fool at forty." So with bee-keepers (*verbum sat sapiente*). As to "experting" at sixpence a visit! I know that an autumn tour in two counties has averaged 2s. per visit; indeed, two visits (spring and autumn) ran away with best part of a five shilling subscription! Unfortunately, "Millers" are scarce. If we could propagate a few in every county, bee-keeping would indeed hum! Mr. M. ought to have a seat on the Council of the "British."—KENT BEE-KEEPER, *December* 17.

WORKING DRAWINGS OF BEE HIVES.

[3515.] I was very pleased to see the suggestion of "A Beginner" (3,471, page 473) in the BEE JOURNAL, relative to working plans of the different model hives, and I hope you will see your way to act on it, as I feel sure many BEE JOURNAL readers would value them highly. I hope it may not prove too troublesome an undertaking for your adoption. S. POWLSON, *Derby.*

THE BEE TENT.
PRO AND CON.

[3516.] What flower show or horticultural fête is now really complete without its bee department? So much has honey and bees become associated with flowers, fruit and rural festivities that the first thing sought for by many visitors on such occasions is "the bee tent." This is, of course, as it should be, seeing how dependent one branch of horticulture is to the other. The bee-tent here illustrated is that of the Kent and Sussex Bee-Keepers' Association, and is perhaps the most up-to-date tent in which to manipulate live bees of the present day. It was specially built for the K. and S. B.K.A. to take the place of the cumbrous £20 concern previously used for the purpose of illustrating modern methods of subduing and handling bees, and for general instruction in the art of apiculture. The advantages of a tent like that shown are twofold; first, it costs just one half the sum expended on the more unwieldy appliance mentioned above, and second, its lightness and portability is such that it can be put up in about ten to fifteen minutes, and taken down in something less time. When down it packs away into three small, handy parcels. All the poles are of bamboo cane, the centre one being jointed. The screen is of silk net, but the

ordinary cotton netting can be used and is cheaper, though slightly increasing the bulk.

The tent, however, no matter how well constructed, does not, always, fully secure the effect or purpose intended, seeing that its success or otherwise is largely dependent upon the individual at work inside the netting. Indeed, it is the ability displayed in setting forth bee-teaching in an interesting, fair, and comprehensive style. Here is where the difference between the man whose chief ability lies in handling bees "like so many peas," and the one not only does this, but keeping his audience fully interested in what is going on. Moreover, the real teacher should tell his audience that expertness in handling bees only comes by practice. It is also, I consider, very unwise to make people believe that because he wears no bee-veil to protect himself against stings such adjuncts are useless. Spectators soon realise that the bees they see handled are in some sort of abnormal condition, and as they can find no satisfactory explanation of how it is done the conclusion arrived at is that some means are employed for subduing the bees which is "kept dark" by the operator. Of course, bee-men know perfectly well how simple a matter it is to subdue bees without the use of either "charm" or trickery—and render them quite disinclined to sting, and I hold that a lecturer should fully explain this part of his work, so that no mischief may result through amateur operators thinking they can do likewise with immunity. Again, some experts, I think, allow their imagination too much play with regard to the enormous profits they say are to be derived from keeping bees. Not only is this the case with experts, but with others, and I plead guilty to having myself more than once created an inflated impression (unwittingly, of course) when quoting to the uninitiated the takes, or reputed takes, of large harvests of honey in isolated cases. It is all right to quote cases as a sample of what has been and is done with the bees, but such statements should always be qualified by quoting the fair average takings of honey obtainable in a fairly good season. Accuracy in results are satisfactory enough, and need nothing in the way of exaggeration. Besides, such statements are entirely misleading and do more harm than good.

The fact that by means of our County Associations bee-keeping is advancing is patent to all who read, and no more efficient means exist than able demonstrations from the bee tent, and it behoves councils and committees and secretaries to see that none but capable men are employed in this, one of the most important method of spreading bee knowledge.

This is not a "Christmas chat," but a "plain talk," which I think should be taken to heart with regard to tent work in 1899.—HENRY W. BRICE, *Dale Park, Upper Norwood.*

Photo by H. W. Brice.] THE BEE-TENT. [*From "Country Life."*

NOTES FROM SOUTH BUCKS.

HOW I CURE FOUL BROOD.

[3517.] So mild has been the weather during the last few weeks that bees have appeared on the wing nearly every day. At noon on the 15th it was quite a treat to watch the little creatures besporting themselves in the sunshine. I notice that in most of my hives the large cakes of candy put on at the time of "packing" for winter have already diminished a good deal in size.

Foul Brood.—It is now eight years since I

first became acquainted with this pest of apiculture, but up to the present I have been able to keep it out of my own apiary, not, however, without spending a lot of time and trouble amongst neighbouring bee-keepers in the district, which I can hopefully assert is well rid of it. My first attempt at trying to cure was by putting camphor in the hive and feeding with syrup medicated with phenol. This certainly answered at times; the bees got stronger, and I have known the disease disappear altogether, but only to break out again in a few months. No doubt this was owing to the honey in the hive being contaminated. Three years ago, seeing what they in America call the "McEvoy Method" in print, I determined to try it, and succeeded. But I differ from Mr. McEvoy where he says that disinfecting the hive is not needed. Indeed, I think disinfection is most necessary, and it is surely better to be on the safe side. I have cured between thirty and forty stocks of bees by the "removing from combs and starving" plan, where there has been no reappearance of disease, not even in stocks treated three years ago. In one gentleman's apiary eight hives out of ten were found to be diseased. These eight stocks were treated and became not only cured but as strong as ever in six weeks. I should add they all had young queens given, which is of such assistance to the bees when building out combs from full sheets of foundation.

My method of procedure is to first examine the hive, and if found affected, I do nothing else in the apiary that day. Meantime, I make some rough frames, in which strips of foundation about ½ in. wide are fixed. After the bees have ceased flying for the day, I go to the hive, shake off all bees from the combs and replace with the frames fitted with starters. The diseased combs and frames are then promptly burnt, which, when burnt out, have a bucket of water—to which a plentiful supply of carbolic has been added—thrown over the ashes. This is important, because the honey, when getting hot, is apt to run, and if in the vicinity of other bees, they will be sure to get at the melted honey and carry it off to their hives. The bees under treatment remain on the starters for three days, during which time no food is given. On the expiration of the three days, the bees are shaken off the "starters" into a clean hive on as many full sheets of foundation as they will cover, and fed up with some good syrup medicated with naphthol beta. By this time they will appreciate the food, and, with me, bees so treated soon work up into a strong colony. Finally, the old hive is disinfected as recommended in the "Bee-keepers' Guide Book," and the frames of starters together with all old quilts burnt.

This is a plain statement of how I cure foul brood. Wishing our Editors and all bee-keeping friends a merry Christmas and happy New Year.—G. Sawyer, *Marlow, Essex, December* 16, 1898.

METEOROLOGICAL

Observations taken at Duddington, Stamford, Northants, for the Week ending Dec. 17, 1898.

1898.	Bar. in.	Tem. 9am deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in.
Dec. 11....	30·35	52·0	55	50	5	52·6	—
,, 12....	30·15	50·2	54	48	6	51·1	—
,, 13....	30·33	34·9	44	34	10	39·2	—
,, 14....	30·14	43·0	51	34	17	42·8	—
,, 15....	30·06	41·1	47	40	7	43·6	—
,, 16....	30·16	42·5	53	32	21	42·9	·03
,, 17....	30·18	50·2	53	42	11	47·7	·01
Means	30·20	44·8	51·0	40·0	11·0	45·7	*·04

* Total, ·04.

Mean vapour tension, 0·250 in.; mean relative humidity, 82 per cent.; mean temp. of the dew point, 39°·6. The rainfall, viz., ·04 in., = 904·92 gallons, or 4·04 tons to the acre, or 3·30 lb. to the square foot. For the week ending December 10, the mean temp., viz., 48°·3, was +9°·3, and the rainfall viz., ·87 in., +·27 in. The rainfall, November 27 to December 10, viz., ·94 in., is −·31 in., and that January 2 to December 10, viz., 17·94 in., is −7·20 in.

The following is an extract from Symons's *Meteorological Magazine* for October, 1892, vol. xxvii., p. 144:—

"IRISH WEATHER MAXIMS."

"(Suggested by six weeks of rain, with Generally high and steady barometer.)"

"Very high and rising fast:
Steady rain and sure to last.

Steady high after low:
Floods of rain, or hail, or snow.

Falling fast:
Fine at last.

Rapid fall after high:
Sun at last, and very dry."

"Yours, Paddy."

Fred. Coventry.

Duddington, Stamford, December 19.

Echoes from the Hives.

South-West Sussex Coast, December 14.—The bees and their owners are certainly passing here through an abnormal experience. So far we have only once or twice had the merest touch of frost. Generally speaking, the weather has been so mild that the bees are fairly lively within the hives; and on each sunny day (and these have been many) they have been out and about, dancing and foraging as in summer; but two days ago the ivy and the laurustinus were alive with them; and they were taking honey and pollen gleefully to the hives as fast as ever they could, with a glad and loud hum of entire approval and content. What the state of supplies is going to be two or three

months hence is an abstruse problem. Evidently stocks have been strengthened, some considerably, by young brood. One or two weak stocks have in this way become fairly strong. This all means drawing upon reserves, both of food and of vitality. Let us hope the young bees will compensate for any spring dwindling of the older generation; and then, if we but keep a careful watch on the stores, we may safely wish the bees and their masters a right merry Christmas and a prosperous new year.—W. R. N.

Queries and Replies.

[2136.] *Bee Parasites.*—On examining one of my stocks I noticed on one of the bees a little reddish-brown spot, which, on closer inspection, appears to be a living insect. I send you the bee with the insect still attached, and should be glad if you would inform me through your paper what it is, and what I must do in case there are any more in the hive. I only keep three stocks, and I always clean each hive out in the spring. A few weeks ago I saw the same thing on the queen in this hive, and a week or so later the queen was turned out of the hive, dead. I have not united them yet, as I do not know whether this insect is likely to be propagated. Thanking you in anticipation, yours, &c.—C. J. R., *Tunbridge Wells.*

Reply.—The very full account of the *Braula cœca* (or blind louse), which is no doubt the insect referred to, given in this issue, renders it only needful for us to say here that the parasite does not thrive in this country (for which bee-keepers should be thankful), and seldom lives more than one season.

[2137.] *New Combs gone Mouldy.*—I have by me a quantity of this year's combs, in frames, which have gone slightly mouldy through having been placed in a loft, which, during the late moist weather, has proved too damp for them. Some of the combs contain pollen, but no honey. Can I do anything to preserve them, or must they go into the melting-pot? I have looked through Cowan's "Guide-book," and consulted both "Simmins," and "Cheshire," but cannot find any reference to the treatment of mouldy combs.—D. G., *Ilminster, December* 19.

Reply.—If not badly moulded we should syringe the combs well with salicylic acid solution, and put them through the extractor to remove the moisture. Then keep in a very warm place. Any small amount of mould the bees will remove.

[2138.] *Transferring Bees from Skeps to Frame-Hives.*—I have taken your valuable Bee Journal since I first became aware of its existence in July last. It has given me a greatly increased interest in bees and bee-keeping, and I have recommended it to many of my friends, and will continue to do so. I want now to say that I have four very strong stocks of bees in straw skeps (swarms of this year and last), and I should like to transfer two or three of them into bar-framed hives. Have you any books treating of the subject? or can you advise me as to the best way of transferring the bees? I am entirely ignorant of frame-hive management, though well up with straw skeps and handling bees.—John Jones, *Conway, North Wales, December* 15.

Reply.—First let us thank you for aiding us with our subscription list, and for testifying to the assistance the B.J. has given. Regarding transferring bees to frame hives, and notwithstanding your experience in handling bees in skeps, we advise the simple course of setting the skeps above the tops of frames in frame hives in April next, and allowing the bees to transfer themselves. If you decide to adopt this plan write again and we will give fuller details of how it is done. Meantime, the ordinary method of transferring is fully described in "Guide Book."

PREPARING BEES FOR WINTER.—No. 5.

I believe the question of shelter, in out-door wintering, is of more importance than generally believed. Though it is true that in some instances colonies have been known to winter safely when exposed to the fierceness of the winds, these exceptions, instead of weakening the rule, can only strengthen it, for it will always be found that the circumstances otherwise were most favourable, where the results were so unexpectedly good.

In a natural state, the bees which are hived in hollow trees can hardly be used as a safe criterion, for we have no manner of knowing how many or how few such colonies winter safely in this climate, but even if it could be proven that they generally succeed, the fact that their abode is usually at only a short distance from the ground, and in thick timber, where the force of the wind is lightly felt, and the additional fact that the body of the trunk which they inhabit is very thick—much thicker than our improved hives—would still indicate that some shelter is advisable. The straw hives formerly used by the old apiarists of Europe were certainly very good abodes, as far as winter protection was considered; for they were very thick, and the material used is one of the best non-conductors of heat or cold. But it is out of the question to make such hives to-day, or at least to put them in use in a practical way; so we must see what we can do with the ordinary movable-frame hives.

Double-wall hives are very good for winter, especially when they have a dead-air space between the two walls. They are exposed to two weighty objections. The first is that, in the warm days, or in early spring, they are not readily and quickly warmed by the first rays

of sunshine, and the bees in them will be less readily induced to take a flight. The other defect is their cost. Few bee-keepers will adopt them because of the expense involved in the purchase of such hives. This objection should have no weight with a practical man, who will readily figure that the first cost of a hive is a trifle when he considers the time of its usefulness, which may be reckoned, if the hive is well made and well painted, not less than thirty years. But, since most of our apiarists have only single-walled hives, it is useless to spend much time in the consideration of anything else.

A bee-house, if properly made, built as a shed, with a roof and three sides closed for winter, would be an ideal wintering-place, especially if the front could also be closed during stormy days, and the hives more or less packed in straw, leaves, &c. But a bee-house for a large apiary is almost out of the question, and it is only in small apiaries, or in cities, that they are used.

A tight board fence is a good shelter, as far as it goes, especially if on the north side of the apiary. A movable outer covering, made so as to fit over the hive, and arranged so it may be taken to pieces and piled away for summer is very good. It may be made of rough boards, or of thin lumber, to be more easily handled when removed. But it must be so arranged as to permit of the bees' flight during warm days, as said before.

It would be a big error to place the bees in any repository, or to cover them with any shelter which prevents their flight, unless the temperature of such repository is kept evenly at the point which would enable them to remain inactive with the smallest possible consumption of stores. That is why the placing of bees in garrets, or enclosed sheds, where they are certainly warmer than out-of-doors, but where the temperature nevertheless falls much below the freezing point, or rises, in warm days, so as to make them restless, has always been an entire failure.

Our method, which is perhaps not the best of all, but which has always given us very good results, is to place around each hive, on all sides but the front, a packing of forest leaves, held in place by a sort of lattice work made of plasterers' laths and strong twine. The laths are cut in two, so as to make about the height of the hive. The leaves used are found right in the apiary, and simply raked together; and when they are thus closely folded around the hive they give it a very cosy and comfortable appearance, especially when the cold winds blow. The front being left uncovered, the bees can take advantage of any sunshine to take flight, and no particular attention need be given them, except to see that the consecutive thawing and freezing of the snow does not close the entrance and prevent the circulation of air.

A shelter of loose snow, as I said before, is a very good shelter until it begins to thaw, when it is objectionable, especially if the thawing snow fastens to the hive, and refrigerates it, so to speak, by the natural absorption of heat to change to water.

In the hive, over the frames, we always use a straw-mat made of coarse straw, or slough-grass. This, with a capful of leaves, allows the moisture arising from the bees to readily escape without any deperdition of heat; and places them in the very best possible condition at least possible cost. The use of leaves as shelter was suggested to us by the oft-repeated remark that leaves are very good to keep the ground from freezing. Any one who has had to dig the ground in the timber in cold weather has noticed how little the ground freezes under a plentiful coat of leaves.

In another article I will examine the question of cellar-wintering.—C. P. DADANT, *in American Bee Journal.*

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

THE Hon. Secretary of the Lancashire and Cheshire B.K.A. writes:—"If your correspondent, 'Amateur,' who writes from Southport in B.J. of last week (page 500), will communicate with me, I shall be pleased to give him information in regard to the Lancashire and Cheshire B.K.A.—(REV.) E. CHARLEY, *Ince Vicarage, Chester, December* 16."

J. M. (Sunk Island).—*Dealers and Their Customers.*—We cannot say why the firm mentioned "do not either send the bee-gloves, return cash, or reply to your notes." We do know, however, that they have been in existence for many years, do a very large business, and have the reputation of attending to it. The numerous testimonials from customers we have seen printed are fairly good evidence of this. Is there no other reason for the want of attention to yourself of which you complain?

J. W. (Northumberland).—*Suspected Combs.*—Just a line here to say comb sent contained nothing more than old pollen. Full reply to other queries will appear in our next.

P. W. BROOKE (Isle of Man). — *Honey Samples.*—There is nothing more unusual in samples sent than the varying manner in which honey of different seasons granulates. That gathered in 1897 is a fine sample, and if reliquefied by carefully placing in hot water till melted, will blend the liquid and granular parts respectively so as to make it nice for table use. The 1898 sample is not nearly so good, and is just beginning to granulate.

Editorial, Notices, &c.

THE CLOSING CHAPTER FOR 1898.

With the issue of this number the BRITISH BEE JOURNAL completes its twenty-sixth annual volume and ends another year's journey on its not uneventful career. But while we look back and note with some sadness how many of those who trod the deck on its first voyage are gone! not a few of its earliest readers are still on board and stand fast by the old craft with all the steadfastness that attaches to "British" bee-keepers.

As for the "man at the helm," he pleads guilty to many shortcomings in the past twelve months, and rather fears that some correspondents will perhaps feel "a bit sore" at what must savour of neglect so far as replies to queries and private correspondence generally. On one point, however, he has a clear conscience, and that is entire freedom from wilful neglect or desire to do less than any single pair of hands can be expected to do in the twenty-four hours of each day. In fact, he has "taken on," may be, a little too much of outside work in endeavouring to benefit the industry generally so far as his ability went, and those who have suffered what looks like neglect in consequence will please note that he has not spared himself in the past year. This said, we have only the heartiest thanks to offer to contributors and readers for their generous help and support, and to say that we trust that Volume 26 of the JOURNAL is not unworthy to take its place alongside its predecessors. Anyway, the year's work is before them in print, and we must be content to be judged thereby.

One cause for general congratulation, however, arises from the fact that in spite of a moderate season, in the sense of its profitableness to bee-keepers, the progress of the industry during the past twelve months has been marked beyond dispute. Never before was so much attention given to the subject of bee-keeping in the public Press, and it is now beginning to be recognised as a rural industry worthy of encouragement by "the powers that be." This encouraging result has not been brought about by other than real hard work on the part of gentlemen who have spared neither time nor money in pressing forward the claims of apiculture to public notice, and to them more praise is due than many of our readers imagine. We, who are behind the scenes, know how much of persistent effort has been given to the work, and knowing this, we here tender on behalf of all a well-deserved word of gratitude to them for it.

IRISH BEE-KEEPERS' ASSOCIATION.

The following circular has been issued to members of the Irish Bee-Keepers' Association :—

"The Committee has had its attention specially directed to the subject of Foul Brood, and convincing evidence has been laid before it that the disease, in various parts of Ireland, has within the past couple of years increased to an alarming extent, and that unless adequate safeguards are immediately adopted, there is every probability that irreparable injury to bee-keeping in this country will be the result.

"An effort is being made by the Committee so as to enlist the sympathy of the Government in the urgency which has arisen that legislation may be promoted with a view to arresting the danger indicated above.

"But meanwhile the Committee must impress upon bee-keepers generally that it is of the first importance that they exercise every precaution possible in their own apiaries and districts to prevent the introduction or to check the spread of the disease. It has been proved beyond a doubt that the disease has recently become established as a plague in many districts through the practice of buying and selling diseased stocks, swarms, and appliances, probably under the impression that they were healthy. The Committee strongly recommend that no sales of bees or second-hand appliances be made without our expert having first certified that they are free from disease, and all bee keepers are hereby warned against the danger of purchasing such unless they have been advertised as 'Certified by Association Expert to be free from disease,' or have been guaranteed by the vendor as 'healthy' or 'sound.' Vendors who are members of the Association will be assisted where possible to have their bees, &c., examined and certified.—HENRY CHENEVIX, *Hon. Sec., I.B.K.A.*"

Correspondence.

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEE-KEEPING IN CO. WEXFORD.

[3518.] It is now rather late in the year to send an account of my bee-keeping, but, bearing in mind the adage, "Better late than

never," I append a few details. We commenced the season this year with forty-nine stocks, all very strong in bees, about the middle of June, when the honey flow commenced. We work entirely for section honey, and always endeavour to keep the hives boiling over with bees, and in consequence manage to have an extraordinary number of swarms. I had no less than eighty-two swarms between June 15, on which date my first swarm of 1898 issued, and July 15, the day when the last swarm of the year came off. But the bees did not neglect the honey, for they filled for us 3,300 sections. I sold slightly over 3,000 of these, and the remainder I kept, being used for household purposes.

When the season of '98 closed my stocks numbered sixty-eight, all very strong both in bees and stores. With this number of colonies I thought I was fully stocked for this district, and did not care to increase from driven bees nor re-queen any of my hives this year. However, six stocks have died out owing to queenlessness since September, and I have now sixty-two colonies remaining, which I hope will give a good account of themselves in the coming year.

I have worked four "Wells" hives for the last three seasons, and the result in honey is much the same with each double-queened stock as two single stocks (I always count a "Wells" hive two stocks). I never found any difficulty in manipulating them more than single hives, but they swarm oftener than the latter hives do, as, when one end of the hive swarms, the other would generally follow suit, and at the end of the season I often found one end of the hive queenless. Three out of my four "Wells" hives have now a tenantless end at the present time; in future I shall confine myself to one hive on the "Wells" principle.—J. Doyle, *Adamstown, co. Wexford.*

GLASS "QUILTS."

[3519.] Since I began bee-keeping, some four or five years ago, I have constantly used sheets of glass, with a 2-in. feed-hole cut in them, next upon the brood-chambers (or supers, when supered), with warm quilting (felt) over all. I have never seen any occasion to change my opinion as to the advantages of this plan, which I have frequently dwelt upon in these pages; and every one of my present fifteen stocks is supplied with these "glass quilts," with the result that the bees are practically in observatory hives.

But (as usual) there is one decided drawback—the brittleness of the material and the many fractures in taking off and in cleaning; and these make the system somewhat costly in the long run.

I write, therefore, to ask if any brother bee-keeper has any experience of celluloid as a substitute? If sheets of that or any other suitable material 17 in. by 15 in. can be obtained, and at what price and where? I have seen so many articles lately made of a perfectly transparent and colourless substance, which is flexible and yet firm, and which, I suppose, is some form of celluloid, that it has set me thinking on the subject.

The points on which I would particularly like enlightenment are:—1. Will the material keep its shape without buckling when exposed to the summer heat of the hive? 2. Will it need bordering or encasing in wood at the edges? 3. Will it be easy to clean when soiled with honey, wax, propolis (especially), &c., without becoming permanently stained and clouded? 4. Can it be easily disinfected in case of foul brood and how, *e.g.*, will it stand boiling? If not, how *can* it be disinfected? 5. Will it maintain its transparency for years unimpaired by heat, soiling, cleaning, disinfecting, &c., &c.? 6. Is it perfectly and permanently waterproof? 7. Is it harmless and acceptable to bees?

Any information or hints on these or any other details will be gratefully received.

It will be observed that glass satisfies *all* these varied conditions; its only important drawbacks being: Its liability to fracture under stress or pressure. 2. The need of great care in handling its sharp edges, which can give very unpleasant cuts. 3. The cost (about 1s. 3d. each, or 1s. 6d. with the necessary feeding holes cut in them. And so I should have to experimentalise before discarding it finally for any substitute, however, promising.—W.R.N., *Sussex, December* 14, 1898.

BUILT-OUT COMBS *v.* FOUNDATION.

[3520.] Referring to the question of built-out combs *v.* comb foundation, mentioned on page 453 of B.J. for November 17, please tell Allen Sharp I have had partly-built sections on hives that were left untouched while those with foundations were filled and finished. I have also had hundreds of partly-built combs in sections from previous years that were finished, while foundation was left untouched. All depends on the condition of partly-built combs. If all right in that respect, mine are always finished before sections fitted with foundation. Best wishes.—C. C. Miller, *Marengo, Ill., U.S.A., December* 12, 1898.

P.S.—Release a "balled" queen by smoking, holding the smoker far enough away that the smoke will be cold. If the smoke is hot enough, the queen will be stung at once.—C. C. M.

TRANSFERRING BEES IN DECEMBER.

[3521.] Thinking it possible that there may be a few of your readers who do not know how late in the year it is possible to transfer a stock from a straw skep to an ordinary frame-hive with any hope of success, I venture to give you details of my experiences in this direction as follows:—I received a stock of

bees in a straw hive from Yorkshire on the 4th of present month, and finding that from insufficient care in packing the combs had all broken loose I determined to try and transfer them to a frame-hive on the first warm day, as I feared that the queen might have been suffocated with honey in transit. Unluckily, this was the case, so after transferring in the usual manner with great care, I united a weak stock on three frames to the new-comers, and I am delighted to be able to record a complete success. I have given them a large cake of candy, although they appeared to have a sufficiency of stores, and at the time of writing they have settled down nicely, and I may, I think, safely assert that in the whole of the manipulations not more than twenty bees lost their lives. Hoping that my experience in this matter may be of some use or interest to some of my fellow bee-keepers.—A COCKNEY BEE-KEEPER, *Streatham, S.W., December* 23.

WAX EXTRACTING.

"Piper, quo' Meg, hae ye your bags,
Or is your drone in order?
If ye be Rab, I've heard o' ye,
Live ye upon the Border?"

[3522.] I am not so sure that our cousin, "Robert Peebles," is quite in order when he says that he has "carefully looked up the B.J. and *Record* and found nothing more in advance of wax smelting than the old-fashioned system of boiling it." I can assure Mr. Peebles, as well as "An Oppressed Bee-keeper" (3502, p. 494), that I have made a first-class Solar Wax Extractor, and extracted pure wax this year (1898) from the particulars of measurement in recent numbers of the B.B.J., so that no boiling-pot or washhouse-copper need be utilised, or the guid wife riled by sticky wax in the "kail-yard" house.

I have no wife to bother my life since I took to smelting, nor "Rosemary" bush either, but hope to have some mead this next Halloween if the Widow MacCree will buckle tae. I am no chiel, an' will be to her a guidman 'gin she helps in spring and summer with the bees in the haugh.—AULD REEKIE.

EARWIGS.

[3523.] I trust our friend Dr. Percy Sharp does not think that I for one instant disbelieve him when he says that the horny forceps are regarded as weapons of defence. Such an established fact I should not dream of disputing, but I cannot go back in any way from what experience has taught, and which is confirmed in every detail by scientific men of far more knowledge and experience than I can ever hope to boast of!

But I cannot alter my mind as to their *secondary* use, for Nature—unseen to our imperfect vision—often, nay, repeatedly, sees fit to provide its subjects (if I may so call them) with instincts which make them more remarkable, especially as to their *habits*, than most of us have any idea of! Hence I can easily understand what Dr. Sharp narrates as perfectly possible, the insect being, it must be remembered, placed under pressure.

Every one will admit that the nippers and great agility of the earwigs have made them *appear* formidable creatures; but, except to plant life and the annoyance to bee-keepers, they are exceedingly harmless!

If Dr. Sharp had "set" the wings of the earwig in the same way as entomologists "set" their specimens, he would not have found "operating" (an operation, however, he may be partial to. Forgive me, Doctor!) a "necessity."—R. HAMLYN HARRIS, F.E.S., *Villa Rominger, Tübingen, Germany.*

GORSE BLOSSOM.

[3524.] In answer to our Vice-Chairman's appeal on page 491, I send a contribution for "The Hat."

The reply to Mr. Till's question in B.J. of December 15 (3504, page 494) is that "Gorse is in bloom all the year round."—W. H. HARRIS, *Ealing Dean, W.*

[Yes, this is so, otherwise gorse and misletoe would disagree!—EDS.]

[3525.] Has your correspondent "E.D.T." (3504, page 494) never heard of the old saying attributed to Queen Elizabeth that "She would get married when the gorse was out of bloom"? As the gorse never is out of bloom she, as your readers know, never got married. She evidently knew that fact well when she made the remark. Henry Dobbie, in his "Bee Pasturage," gives the percentage of honey in gorse to be 20 whilst he states the pollen capacity to be 40 per cent.—R. HAMLYN HARRIS, F.E.S., *Villa Rominger, Tübingen, Germany, December* 16.

NOVICES ON THE PROWL.

[3526.] It was on a charming Sunday in August last, while out for a walk round Wickham, Kent, that we noticed in front of a farmhouse three colonies of bees. The hives were very uncared for and in the saddest condition possible. Stopping a short time watching the bees our presence was made known to the inmates of the house by the barking of a dog, and one of the occupants came out to see what was the matter. We soon got into conversation with him and inquired how the bees had done and what sort of honey harvest they had. In reply, we learned that the bees had been a complete failure. Our interest being aroused, and the owner offering no objection, we lifted each hive in turn, and finding they were very light and almost devoid of stores, we advised him to give at least thirty pounds of sugar syrup to

each. This idea he did not at all fall in with and told us the bees must take their chance. This, of course, meant certain death to them and a hard wrench to a bee-lover. I, therefore, at once made him an offer which I was glad to have promptly accepted, and we left pleased with our bargain, with the understanding the hives should be packed up for us by the following evening. On our arrival at the place the following day we were somewhat surprised to find that not a thing had been done with the bees or hives with the exception of putting a few pieces of sugar in a tea saucer in front. Now as we had gone over totally unprepared for packing the hives we were at a loss to know what to do. However, we at once scoured the village and after a lot of trouble succeeded in getting an old sheet and a piece of clothes line, but having no smoker nor any means of quieting the bees it was no easy job we had undertaken, for the hives stood on some old barrels without any floor-boards. This was against our views of handling bees by complete novices like ourselves, for we could not get the sheet under without lifting the hives a good height and the bees came out and took wing freely, causing the onlookers who were helping us to take wing too, and leave us a very open field to work in. But still, though a long way off getting an expert's certificate, it takes something to damp the ardour of two earnest novices, and we made up by perseverance what we lacked in skill, so that by dusk we had got the bees safely packed up in the hives and the whole household seemed very glad to see the back of us.

But now the real fun commenced, for, as we marched through the village with a couple of skeps swung on a pole between us, and a lot of bees in a strawberry basket in our hands, every native seemed to be out, and the view of our "baggage" seemed to puzzle them not a little. The questions and answers amongst themselves as to who we were and what we had "on sale," were astonishing. Nearing the village inn the, "man in blue" was on the alert, and came forward, but soon concluded that we were *not* burglars in disguise; and so, setting down our load for a rest, we had a laugh with him, and once more got on the road. After some further "experiences," we reached home at 11 p.m., not at all displeased with our adventure, and now only await the spring to reap the award of our labours. The hives are safely packed up with plenty of stores, and the bees were "out strong" on the wing as late as December 17.—Two Bee Blossoms, *Norwood, S.E., December* 18.

LECTURE AT HASLEMERE.

On December 9 Mr. H. W. Brice, Hon. Sec. Kent and Sussex B.K.A., delivered a lecture at Haslemere on bees and bee-keeping to the members of the local Microscopic and Natural History Society. There are not many bee-keepers in Haslemere and its immediate neighbourhood, but much interest was evinced in the subject, and, as the locality is one eminently fitted for the pursuit of apiculture, good results are likely to follow in the direction of leading residents to pay more attention to the question. Mr. Brice illustrated his lecture with some admirable lantern-slides prepared by himself and well adapted to show the anatomical structure of the bee and all the various processes leading up to the perfect development of the insect and its work in the storing of honey within the hive as well as in the fertilisation of blossom and the benefits to fruit and seed growing thereby. He sought to prove to his audience that bee-keeping was a profitable, a pleasurable, and an intellectual pursuit, offering to the student of nature a wide field of research, and, like all such fields, practically limitless in extent, for the farther one went in pursuit, the more one found to discover and admire. He explained how the bee-keeping industry could be profitably followed by women, and, indeed, women were among our most successful apiarists. The great deterrent to many was the fear of being stung, but that was a "point" of little consequence which should deter none save a very few physically debarred by nervous fear or through being specially inimical to bees. Among other things Mr. Brice explained that until 1746 the head of the hive community was supposed to be a king, but in that year Dr. Warder discovered (paradoxically speaking) that the "king" was a queen! Furthermore that the worker bee was not a neuter but a female. He proved conclusively that the honey bee was worthy of more attention than was given to it, and that *Apis mellifica* possessed in greater degree than many domesticated servants of mankind a minimum of bad points and a maximum of good.

The audience gave him a hearty vote of thanks for his lecture, and there is little doubt that bee-keeping will receive a stimulus in the district through Mr. Brice's visit.

Echoes from the Hives.

Honey Cott, Weston, Leamington, December 22.—The latter part of the season, thus far, has been much the same as it was last year, many mild days allowing the bees to fly. With me, even up to the last few days, the bees have been on the wing in thousands, while some appeared to be on the look out to see if they could do a little robbing from their neighbours. I find the "blackatops," as we call them, are on the look out to get a few bees, which has decided me to set some traps for them. Wishing all bee-keeping friends a happy and prosperous New Year.—John Walton.

Forfar, N.B., December 22.—We had a very irregular season in this part of Scotland this

year, particularly with regard to the clover yield. It was curious to see some hives yielding fully 50 lb. of surplus honey, while from other stocks in the same apiary, equally strong in bees, I only got about half that amount. On being sent to the hills for the heather season, the results were much more equal, and I may say that the average was about 30 lb. of heather honey per hive.—A. P.

Trieste, Austria, December 23, 1898.—In all my experience of bee-keeping, extending over twenty-four years, I never remember such a bad year for bees as that of '98. I have had to reduce my forty-five good colonies to twenty-four and give about 200 lb. of honey to the bees to make them safe for passing through the winter safely; and this, too, without having taken any surplus honey. Wishing to all a happy New Year.—ALEX. SCHRÖDER.

METEOROLOGICAL

OBSERVATIONS TAKEN AT DUDDINGTON, STAMFORD, NORTHANTS, FOR THE WEEK ENDING DEC. 24, 1898.

1898.	Bar. in.	Tem. 9am deg.	Max. deg.	Min. deg.	Range deg.	Mean deg.	Rainfall, in.
Dec. 18....	30·06	50 0	55	50	5	52·6	·17
,, 19....	30·02	37·1	43	37	6	40·1	·01
,, 20....	30·30	32·5	43	30	13	36·8	·04
,, 21....	30·38	38·2	41	30	11	35·7	—
,, 22....	30·41	32·5	40	32	8	36·2	—
,, 23....	30·36	28·0	37	25	12	31·2	—
,, 24....	30·26	34·9	43	27	6	35·3	—
Means	30·29	36·2	43·1	33 0	10·1	38·3	*·22

* Total, ·22.

Mean vapour tension, 0·185 in.; mean relative humidity, 84 per cent.; mean temp. of the dew point, 31°·7. The rainfall, viz., ·22 in., = 4,977·06 gallons, or 22·22 tons to the acre, or 1·10 lb. to the square foot. For the week ending December 17, the mean temp., viz., 45°·7, was +8°·3, and the rainfall viz., ·04 in., −·48 in. The rainfall, November 27 to December 17, viz., ·98 in., is −·79 in., and that January 2 to December 17, viz., 17·98 in., is −7·68 in. The rainfall for the week ending December 17, viz., ·04 in., = 3·30 oz. (not 3·30 lb.) to the square foot.

FRED COVENTRY.

Queries and Replies.

[2139.] *Doubling and Storifying.*—Being desirous of obtaining extracted honey next season, and reading "Guide Book," p. 56, viz., "Doubling and Storifying," Method I. says, "select two strong stocks," &c. (kindly refer to "Guide Book"). 1. May I understand that the empty hive into which is placed all combs containing brood from one of the said strong stocks becomes the surplus honey chamber after the brood has hatched out? 2. If so, what is done with the stock from which all brood combs have been taken from to make it strong enough to gather surplus, or is it intended to place this stock as a third story (when filled up with empty combs or foundations) upon the hive filled with brood combs, thus making it a receptacle for surplus honey? 3. If this is so, are the bees (with queen) also placed upon No. 2 story?—CONSTANT READER, *Chichester, December* 20.

REPLY.—1. Yes. 2. The brood-combs from first-named hive are replaced with full sheets of comb-foundatiion. 3. The hive first referred to will have surplus-room given, as required, later on.

[2140.] *Beeswax for Exhibition.*—As a reader of the BEE JOURNAL I have been much interested in the discussions in its pages on the extracting and purifying of beeswax, and, although a successful competitor in the classes for wax, I would like to try and improve on my past efforts. 1. This impels me to ask for your opinion on what colour it should be to meet the exhibitors' standpoint, or any other suggestion you may favour me with? 2. If I remember aright, there is some chemical that can be put in amongst the wax to improve the colour and general appearance.—CONSTANT READER, *Forfar, December* 22.

REPLY.—1. Pale yellow is the best colour. 2. A few drops of oil of vitriol added on removing from fire improves the colour.

PREPARING BEES FOR WINTER.

NO. VI.

For eight or ten years past we have personally abandoned the practice of cellar-wintering, owing to the better success we have achieved of late in out-door wintering. We do not know but it would perhaps be best to narrate our experience on this subject to the reader, an experience of thirty odd years, and let him draw his own conclusions.

We began experimenting on indoor wintering in 1865, on a small scale. We had then, perhaps, in all, some twenty or twenty-five colonies, and as we had no cellar worthy of the name, but merely a "hole in the ground," under our log-house in the woods, we concluded the first year to try a clamp, such as had been recommended by German bee-masters, in the *Bienenzeitung.*

We, therefore, dug a trench of sufficient length to contain all our hives side by side, and deep enough so that the hives might be entirely hidden in it. In the bottom of this trench we laid two 4 in. by 4 in. timbers lengthwise, and on these we set our hives, removing the cap or cover, and leaving only the honey-board. Over the top of the trench we laid boards that reached about 6 in. or 8 in. beyond the pit, and on these a layer of straw, roof-shaped, then a layer of earth and another layer of straw and earth; making such a covering as a farmer uses, in many parts of the country, for apples or potatoes. We had previously, however, made four light tubes, by nailing four plasterers' laths together, for each

tube, which had been placed perpendicularly, two of them reaching to the bottom, and the other two at the upper part of the silo, so as to make a light change of air for the breathing of the bees. The trench was drained by a short gravel drain at each end.

We had very good success, and, encouraged by this, we again put away our bees in this fashion, the following winter. But the winter was very wet this time, and through alternate thaws and freezes, accompanied with rain, the ground became soaked, our drains proved insufficient because they became stopped up by freezing, or for some other reason, and the extreme of moisture destroyed a great proportion of the colonies. I believe that during that winter we lost fully a third of the colonies. This discouraged us in any further attempts at silo-wintering. Yet we know that the practice is good, and in localities where there is little or no danger of a thaw during the winter, I am sure this would be a very safe method for an apiarist who had no cellar.

In this part of the United States we have now more commodities than formerly, our log-houses have been replaced by convenient homes, the cellar ordinarily occupies the entire space under the house, and it is quite easy to partition off a portion of it for the use of the bees; but I know there must yet be many parts where they still have to do as we did in the sixties, keep a family in two small rooms, where they cook, live, and sleep; put the children in a trundle bed, and the cows in a straw shed. Then the young fellow had to go a-courting in a wagon, and felt happy if he had only a good spring-seat to take his best girl to church or to a ball. What would the boys of to-day say of this?

When our log-house was abandoned for a better home (we then used it for a bee-house till the rats compelled us to tear it down), we took special pains to build a large cellar, and partitioned off a portion of it, a space 10 ft. by 20 ft., purposely for the bees. This special room has two windows, and the walls and ceiling are lined with a sawdust partition to keep the temperature more even. This was the more necessary because we had a furnace in the cellar to heat the house, and it would produce more warmth than needed. We had already wintered enough colonies in the hole under the log-house to make sure that a temperature of more than 45 deg. was likely to make the bees restless, while a temperature of less than 40 deg. had the same effect.

There had been some discussion among bee-keepers as to the proper degree, and a few men held that the bees could stand a great deal of heat, while in the cellar, without suffering; one man even went so far as to assert that they would winter in a cellar warmed to a temperature of 70 deg. to 80 deg., and that he had tried it successfully. This shook the faith of some of our friends, until it was ascertained that this person had just been *guessing* at the temperature of his cellar, and had no thermometer upon which to base his assertions. A good thermometer costs only 25 to 50 cents, and we used one in the cellar, at all times, and my father visited the bee-room hundreds of times during the winter, and found uniformly that the bees were the quietest at 42 deg. to 43 deg., and that below 40 deg. or above 45 deg. they began to stir.

We used this cellar very regularly for twelve or fifteen years (it had been built in 1875), and it invariably happened that the bees wintered best in it during the coldest winters. This is easily understood, for it is much easier to warm up such a cellar than it is to cool it down, when once warmed up, when the temperature on the outside is still higher. In very cold days, if the thermometer registered a lower temperature than 40 deg., all we had to do was to open the door between the two cellars, and a steady increase would at once take place. If too warm, during cold days a little increase of ventilation through the windows would soon regulate that defect. But when the weather got mild, and remained so for several days, it always proved an impossible task to cool the air enough, with 100 colonies in such a small space, to keep them quiet. We tried a tubful of ice, but the difference made by it was not worth mentioning.

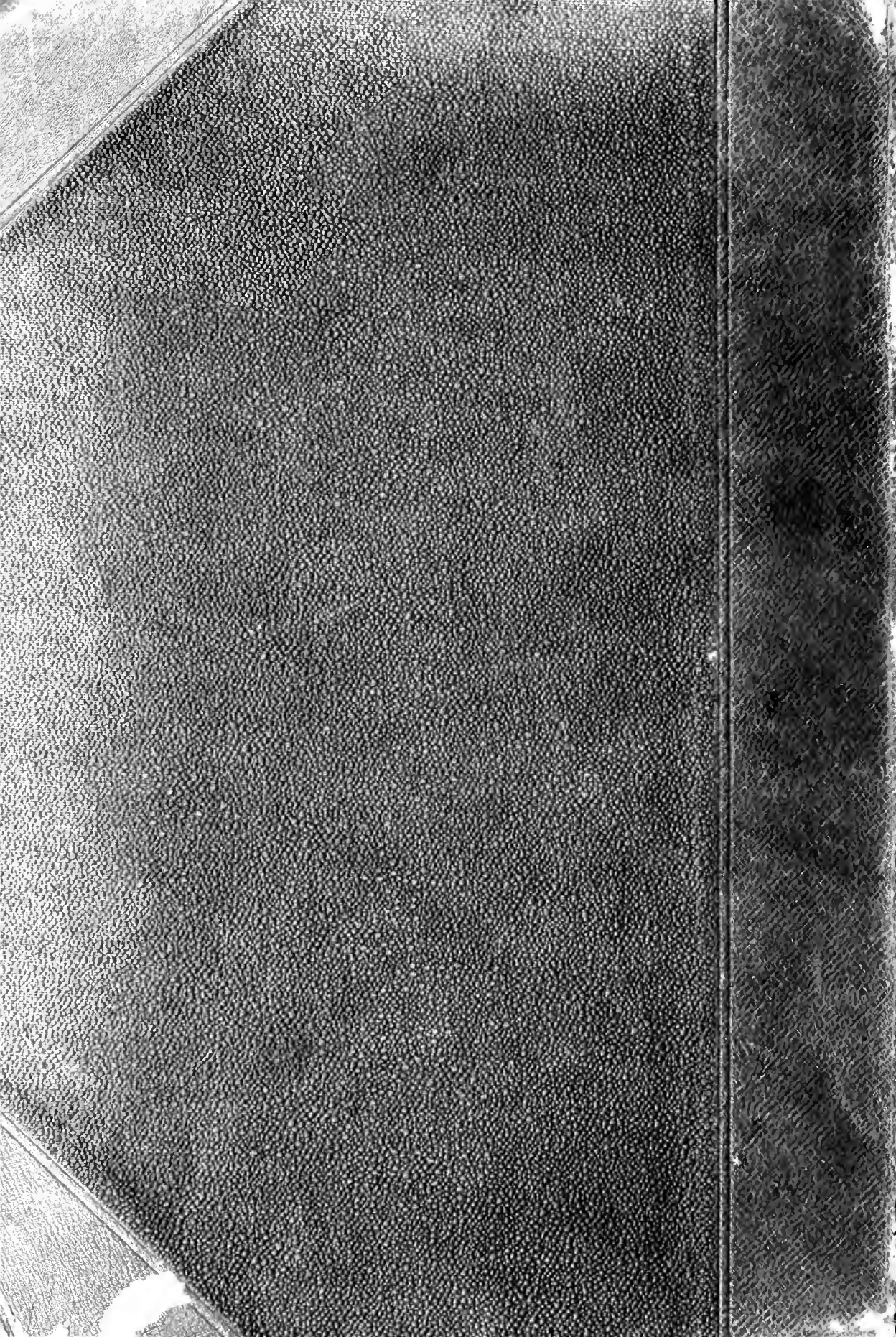
Of late years we have had comparatively pleasant winters, and we have found that, although we lost but few colonies in cellar-wintering, it was usually preferable to leave the bees out of doors, as they breed earlier and run less risk of pillage or spring dwindling. We believe that we are, here, on the southern limit of safe cellar-wintering, and if we lived farther north we would invariably winter the bees in a cellar.—C. P. DADANT, in *American Bee Journal*.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

J. E. (Callington).—1. The minimum subscription to B.B.K.A. is 5s. per year. 2. Examinations are held in different counties as arranged for by the Secretary.

D. F. JONES (Broseley).—*Using "Ekes" to "W. B. C." Hives.*—Beyond placing "Eke" below frames for winter no other change is made.

"B." (Flixton, Manchester).—*Honey Sample.*—The sample received is heather honey of very nice quality. The peculiar aroma and flavour named are the characteristics of heather honey.

*** *Several letters, queries, &c., are in type and will appear in our next, as will also the results so far of the Prize Fund for the "Royal" show.*